STATE OF NEW YORK

COMMUNITY DEVELOPMENT BLOCK GRANT

DISASTER RECOVERY (CDBG-DR) PROGRAM

SUBSTANTIAL AMENDMENT NO. 26

Approved by HUD September 11, 2020

Additions to: New York State Action Plan Incorporating Amendments 8-25

In sections: Proposed Allocation of Funds, Updated Impact and Unmet Needs Assessment, NY Rising Infrastructure Program, Rebuild by Design Projects, and Citizen Participation Plan

Summary:

Action Plan Amendment 26 (APA 26) will address the following items:

A. *Proposed Allocation of Funds:* Table and references to allocation amounts updated to reflect the reallocation of funds between programs.
B. *Updated Impact and Unmet Needs Assessment:* Changes made to the State's impact and unmet needs assessment related to the proposed allocation of funds, updating previous analyses provided by New York State.
C. *Updates on Previously Submitted Covered Projects:* Update to remove the Bergen Point Wastewater Treatment Plant Outfall Replacement project as a CDBG-DR funded Covered Project.
D. *Living with the Bay Rebuild by Design Project:* The State is updating information on the Living with the Bay RBD project as it continues to move forward, including removing the Coastal Marsh Restoration focus area and adding the Long Beach Wastewater Consolidation focus area. The State prepared an updated Benefit Cost Analysis to reflect the scope, benefits, costs, focus areas and other details of the project included in this Action Plan Amendment. The updated Benefit Cost Analysis is a separate document that can be accessed at https://stormrecovery.ny.gov/sites/default/files/crp/community/documents/20200519_Updated_LWTB_BCA_Final.pdf.
E. *Citizen Participation Plan for RBD and GOSR:* The State is clarifying and updating policies relating to its Citizen Participation Plan for RBD projects and GOSR

Changes are indicated in red text.

A. Proposed Allocation of Funds

Description of changes: All updates associated with the proposed APA 26 allocation of funds will be made to the tables at page 7 and page 59 of the State's Action Plan. Allocation amounts to reflect this proposed reallocation will also be updated throughout the Action Plan wherever referenced.

As described in the State's Action Plan (Updated Impact and Unmet Needs Assessment, pg. 11), there remain unmet needs in all recovery categories of Housing. As applicants move through the Housing Program, the State assesses need based on the best available information to ensure that the allocations are sufficient to provide awards to eligible applicants. The proposed APA 26 allocation of funds considers an updated unmet needs analysis for the Manufactured Home Community Resiliency Program, the unmet needs analysis already identified in the State's Action Plan, and the need of eligible applicants in its Housing programs.

The State has identified an increased need in the Homeowner component of the NY Rising Housing program as more applicants have proceeded with home elevation than originally estimated and the cost of home elevation is proving to be greater than originally estimated at the early stages of the program. The cost of elevation awards has been deemed necessary and reasonable and the program has award caps. To meet this increased need, and in the interest of assisting existing applicants and moving the program toward closeout, funds are being reallocated from the Manufactured Home Community Resiliency Program. The remaining allocation for the Manufactured Home Community Resiliency Program will be sufficient to provide awards to eligible applicants.

From pages 7 and 59 of the New York State Action Plan:

Program	APA 25	APA 26 Change	Revised APA 26 Allocation
Total of All Programs	**$4,501,382,000**	**$0**	**$4,501,382,000**
Housing	**$2,872,707,313**	**$0**	**$2,872,707,313**
NY Rising Homeowner Recovery Program	**$1,852,577,424**	**$5,000,000**	**$1,857,577,424**
NY Rising Condominium & Cooperative Program	**$25,500,000**		**$25,500,000**
Interim Mortgage Assistance Prorgam	**$72,000,000**		**$72,000,000**
NY Rising Buyout and Acquisition Program	**$656,707,682**		**$656,707,682**
NY Rising Rental Buildings Recovery Program	**$234,675,000**		**$234,675,000**
Rental Properties	$129,200,000		$129,200,000
Multi-Family Affordable Housing	$105,475,000		$105,475,000
Public Housing Assistance Relief Program	**$19,247,207**		**$19,247,207**
Manufactured Home Community Resiliency Program	**$12,000,000**	**($5,000,000)**	**$7,000,000**
Economic Development	**$120,277,793**	**$0**	**$120,277,793**
Small Business Grants and Loans	**$90,600,000**		**$90,600,000**
Business Mentoring Program	**$400,000**		**$400,000**
Tourism and Marketing	**$29,277,793**		**$29,277,793**
Community Reconstruction	**$537,432,794**	**$0**	**$537,432,794**
NY Rising Community Reconstruction Program	**$537,432,794**		**$537,432,794**
Infrastructure and Match	**$565,120,000**	**$0**	**$565,120,000**
Local Government, Critical Infrastructure and Non-federal Share Match Program	**$562,420,000**		**$562,420,000**
Resiliency Institute for Storms and Emergencies	**$2,700,000**		**$2,700,000**
Rebuild by Design	**$185,000,000**	**$0**	**$185,000,000**
Living with the Bay: Slow Streams	**$125,000,000**		**$125,000,000**
Living Breakwaters: Tottenville Pilot	**$60,000,000**		**$60,000,000**
Administration & Planning	**$220,844,100**	**$0**	**$220,844,100**

B. Updated Impact and Unmet Needs Assessment

Description of changes: Changes made to the State's impact and unmet needs assessment related to the proposed allocation of funds, updating previous analyses provided by New York State

From page 31 of the New York State Action Plan:

Unmet Recovery Needs in MHCs

~~Specifically, as part of the NY Rising Community Reconstruction (NYRCR) Program, the State identified at least three MHCs that were inundated during a Qualified Disaster in the Orange County and Rockland County. Two communities, containing a combined 175 homes, were identified as the sites of "Additional Resiliency Recommendation" projects in the NYRCR Final Plan for the Village~~

~~of Washingtonville (Orange County) and one, containing 114 homes, was identified in the NYRCR Final Plan for Stony Point (Rockland County). While recovery efforts have continued, the State has identified significant resiliency needs associated with these sites.~~

~~For applicants on rented land, T~~the Manufactured Home Community Resiliency Program (MHCRP) offers recovery and resiliency options to residents of a manufactured home community in Stony Point, NY.

~~will fund the replacement of a manufactured home if the applicant relocates to property outside of the floodplain. For those that own their land, the program allows for the elevation of a manufactured home and limits the elevation height to five feet seven inches, the maximum height recommended by FEMA to safely elevate a manufactured home. Although successful for some applicants, the current program does not provide a comprehensive solution for entire communities that sustained damage within the floodplain.~~ There are a total of ~~55~~ 80 active applicants in the current program who own or rent manufactured homes ~~but are~~ on rental property in the floodplain. ~~Eleven~~ Thirty-four of these applicants ~~are in process of~~ receive~~ding~~ a ~~new~~ replacement home outside of the floodplain. Forty-three of the applicants received up to 42 months of rental housing lease payment assistance. Three of the applicants received funding to enter into a contract of sale for the purchase of a home, including the full down payment determined to be necessary and reasonable, customary closing costs, and associated due diligence expenses. Thirteen of these 80 applicants also received reimbursement awards for relocation expenses incurred to relocate to their new homes. Based on the needs of eligible applicants, the State is allocating $7,000,000 to the Program. ~~The remaining 44 applicants – 26% of the active MHC population – are currently not progressing. Thirty-nine of these 44 A~~applicants live in one mobile home community in Stony Point. ~~This may be attributed to a lack of alternative and proximate communities for residents to relocate after their manufactured home is replaced. Elevations of excessive height may also be undesirable or an impractical option.~~

C. Updates on Previously Submitted Covered Projects

Description of Changes: The State is updating its Action Plan to remove the Bergen Point Wastewater Treatment Plant Outfall Replacement project as a CDBG-DR funded Covered Project. References to Covered Projects will be updated where necessary to ensure clarity and consistency within the Action Plan.

From page 96 of the New York State Action Plan:

Updates on Previously Submitted Covered Projects

APA6, which was approved in May 2014, included details of three Covered Projects: providing PA match and backup generation capacity for the Bay Park Wastewater Treatment Facility; the State's HMGP Bridge Scour Project which addresses the need to repair and make bridges in impacted communities across the State more resilient; and PA match for the repair and restoration of LIPA's energy system. APA10, which was approved in November 2015, included details of an additional Covered Project: the Bergen Point Wastewater Treatment Plant Outfall Replacement Project. Each of these projects was, at the time of submission ~~of APA 6~~, considered a covered project because the amount of federal funds provided by FEMA to repair the facilities combined with the non-federal share portion~~,~~ provided by GOSR exceeds the $10 million CDBG-DR and $50 million or more total project threshold for Covered Projects. While ~~two~~three of these projects, LIPA~~, and~~ the Bridge Scour Project, and the Bergen Point Wastewater Treatment Plant Outfall Replacement

Project may no longer meet the definition of a Covered Project, the projects are still active and critical to community recovery.

Bridge Scour Project: The State's HMGP Bridge Scour Project is progressing; however, as a result of a FEMA's approval of a State-initiated financing plan for the HMGP program which outlines how the State will meet the non-federal share requirements for the Sandy HMGP projects, the State's HMGP Bridge Scour Project will not require CDBG-DR funds at this time.

LIPA: The LIPA covered project is also a FEMA PA project. It was found to not meet the Covered Project definition as funds were only needed to reimburse match costs that were tied to restoring power to the electrical system. Funds were not used for construction. The State along with LIPA has continued to address long term recovery and restoration needs of the power grid. As outlined in this Action Plan, the State has identified additional unmet recovery needs that tie to the restoration costs, which need to be reimbursed so that these costs are not passed onto customers. The work that is ongoing at LIPA will not only restore LIPA's assets to pre-storm condition but it will make them more resilient to future events and make Long Island communities more resilient.

The State worked with Long Island Power Authority to address its restoration related recovery needs as it is the primary public energy provider to Long Island providing services to over 95% of Long Island residents. GOSR has committed to assist LIPA cover a portion of storm related restoration costs through assisting with FEMA PA match obligation. From Hurricane Irene, Superstorm Sandy, and Winter Storm Nemo, LIPA's total FEMA PA match obligation exceeds $200 million with over $1.4 billion in damages ($140 million in matching costs) tied to damages from Superstorm Sandy. This Action Plan provides an additional $27.5 million to assist LIPA to assist with match obligation. LIPA is part of GOSR's Non-federal Share Match Program but the allocation to LIPA has been specified in the Action Plan. The additional $27.5 million to LIPA has not been reallocated from another GOSR program; it is increasing LIPA's allocation from the Non-federal Share Match Program budget.

Bergen Point Wastewater Treatment Plant Outfall Replacement Project: The State's Bergen Point Wastewater Treatment Plant Outfall Replacement Project is progressing; however, as a result of program implementation strategy, the Environmental Facilities Corporation and the New York Department of Environmental Conservation secured alternative sources of non-federal match funding for this Storm Mitigation Loan Program project. No CDBG-DR funds will be used at this time.

D. Living with the Bay Rebuild by Design Project

Description of changes: The State is providing updates to the Living with the Bay Rebuild By Design project, including updates to information required by HUD's October 16, 2014 and August 15, 2016 Federal Register Notices, as the project moves through the design, permitting and environmental review processes. The State also prepared an updated Benefit Cost Analysis (BCA) of the Living with the Bay project to reflect the updated scope, benefits, costs, projects and other details of the project included in this Action Plan Amendment. The updated BCA can be reviewed at https://stormrecovery.ny.gov/sites/default/files/crp/community/documents/20200519_Updated_LWTB_BCA_Final.pdf.

The State is removing the Coastal Marsh Restoration project from Living with the Bay. Issues identified through the design and permitting process have rendered this project infeasible and

unable to meet an eligible end use, per HUD CDBG-DR requirements, within the time constraints of the State's P.L. 113-2 funding, and unlikely to receive necessary permits. A key challenge faced by the project involved the current levels of nitrogen pollution in the project area, which contributes to the degradation of tidal marshes.

Through this Action Plan Amendment, the State is proposing to invest Living with the Bay funds to complement other federal and State funding to implement the Long Beach Water Pollution Control Plant (WPCP) Consolidation project. This project will convert the highly vulnerable Long Beach WPCP into a resilient pump station and construct a new force main to convey untreated effluent from the plant to the newly upgraded Bay Park Sewage Treatment Plant. During Sandy, the Long Beach WPCP was overwhelmed by storm surge, releasing untreated effluent into the Bay, and resulting in ongoing operational issues affecting the quality of treatment that the plant provides, which, in turn, contribute to nitrogen pollution in the South Shore Back Bay. The Long Beach WPCP Consolidation Project is expected to address multiple Living with the Bay objectives for both residents of the Mill River watershed that experience tidal inundation and storm surge from the Bay, and other communities surrounding the South Shore Back Bay. These objectives would be achieved by mitigating the effects of, and increasing community resilience to, tidal inundation and storm surge by removing the potential for release of untreated effluent into the Bay during future storm events and improving water quality by ending the ongoing release of undertreated effluent. In the long term, water quality improvements associated with the project are expected to facilitate natural marsh regrowth and long-term marsh restoration projects in the Bay, contributing to further hazard mitigation, through wave attenuation, for residents of the Mill River watershed and other communities around the South Shore Back Bay.

The updates included in this Action Plan Amendment and the updated BCA are current as of the publication of this amendment. Further changes may occur as these projects move through the design, permitting and environmental review processes.

The State will update the numbering of tables and figures throughout the Action Plan and replace Appendix E with the updated BCA to ensure consistency following HUD's approval of APA 26.

From page 114 of the New York State Action Plan

Rebuild by Design Projects

After Superstorm Sandy's devastating sweep over the northeastern part of the United States, President Obama created the Superstorm Sandy Rebuilding Task Force (the Task Force) with the purpose to redesign the approach to recovery and rebuilding through regional collaboration and emphasis on the growing risks of climate change. The Task Force partnered with HUD to initiate the Rebuild by Design (RBD) competition, which was devised to invite the world's most talented designers and engineers to bring their expertise in flood mitigation and coastal resiliency to Sandy-impacted regions. The six RBD competition finalists were announced on June 2, 2014. Two of the six projects were awarded to New York State to implement.

Table 36: New York State awarded proposals

Project	Location	Total Project Cost	CDBG-DR Allocation
Living Breakwaters: Tottenville Pilot	Richmond County	$70,000,000*	$60,000,000
Living with the Bay: Slow Streams	Nassau County	$189,226,000~~125,000,000~~**	$125,000,000

*At preliminary 60% design; **~~In final scoping and preliminary design phase~~ The design for each component of LWTB ranges from preliminary designs through 100% (final) designs

The goals of New York State's RBD implementation plan are to make communities in Richmond County (Staten Island) and Nassau County (Long Island) more physically, economically, and socially resilient in the face of intense storm events. Both proposed projects represent innovative, flexible, and scalable interventions that could be replicated in other parts of the State, nation, and globe. Each project must undergo a rigorous environmental review and permitting process, which will include the assessment of potential alternative designs and/or projects.

Monitoring plans for large scale projects such as RBD must be developed in coordination with federal and State permitting agencies, as well as following a rigorous data collection and data review program during design. The monitoring plan strategy for Living Breakwaters: Tottenville Pilot and Living with the Bay: Slow Streams is described in the project section below.

From page 127 of the New York State Action Plan

Living with the Bay: Slow Streams

National Objective: Urgent Need ~~and Low- and Moderate-Income~~

Eligible Activity: Rebuild by Design, 105 (a) all provisions 42 U.S.C. 5305(a)

CDBG-DR Allocation: $125,000,000

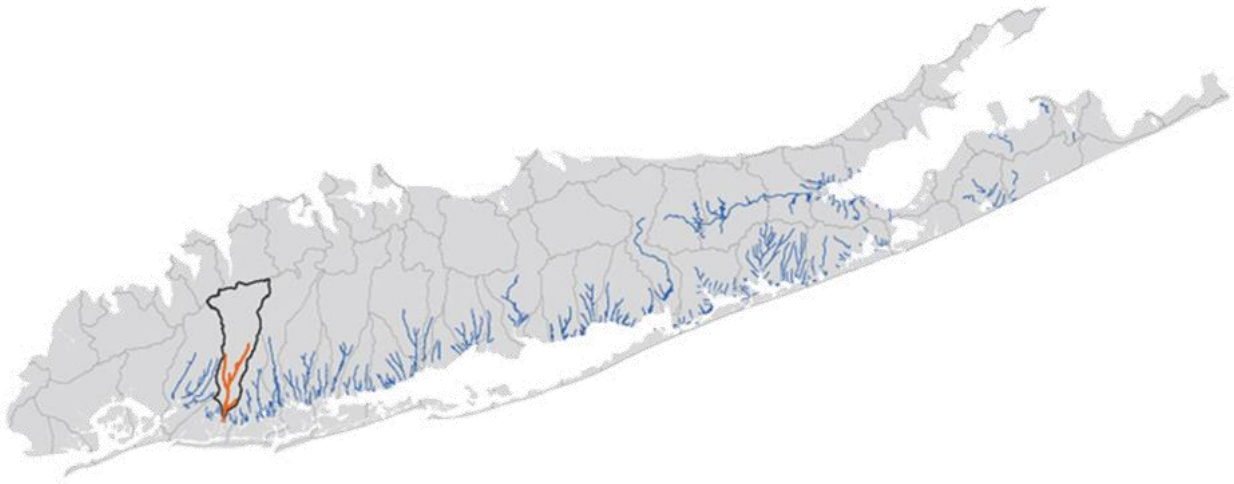
Project Description: Based in Nassau County, Long Island, the $1892~~5~~ million Living with the Bay (LWTB) Rebuild by Design (RBD) project aims to increase the resiliency of communities along the Mill River project area and around the South Shore Back Bay.

~~The project~~LWTB proposes to mitigate damage from tidal storm surge by strategically deploying protective measures such as ~~constructed marshes~~the installation of check valves on outfalls below the high tide mark and retrofitting wastewater infrastructure to prevent the release of untreated effluent; manage stormwater in order to mitigate the damages from common rain events; as well as improve the water quality in the Mill River and the ~~bay.~~South Shore Back Bay. As part of LWTB, green and grey infrastructure improvements will be made along the Mill River project area~~, thereby benefitting the~~. LWTB will benefit Nassau County communities ~~of~~including Town of Hempstead, the hamlets of Oceanside, Harbor Isle, and Bay Park, ~~the Village of Malverne,~~ Village of Rockville Center, Village of ~~Lynbrook, Village of~~ East Rockaway, Village of Island Park, and the ~~Village~~City of ~~Hempstead.~~ Long Beach. The project aims to decrease the effects of tidal inundation, increase coastal protection, address stormwater runoff into Mill River and create publicly accessible greenways that connect the South Shore's communities. The core principles from the winning RBD proposal that this project will address are as follows:

- Flood defense,
- Ecological restoration,
- Access and urban quality, and
- Social resiliency.

~~The~~ LWTB ~~project~~ includes a suite of resiliency interventions for Nassau County communities surrounding the Mill River watershed; an environmentally degraded north-south tributary. As one of the primary watersheds on Long Island, the entire Mill River watershed is comprised of approximately 35 square miles of land area and spans many municipalities within Nassau County. Figure ~~6~~7 shows the extent of the Mill River watershed across Long Island.

Figure 7: Mill River Watershed



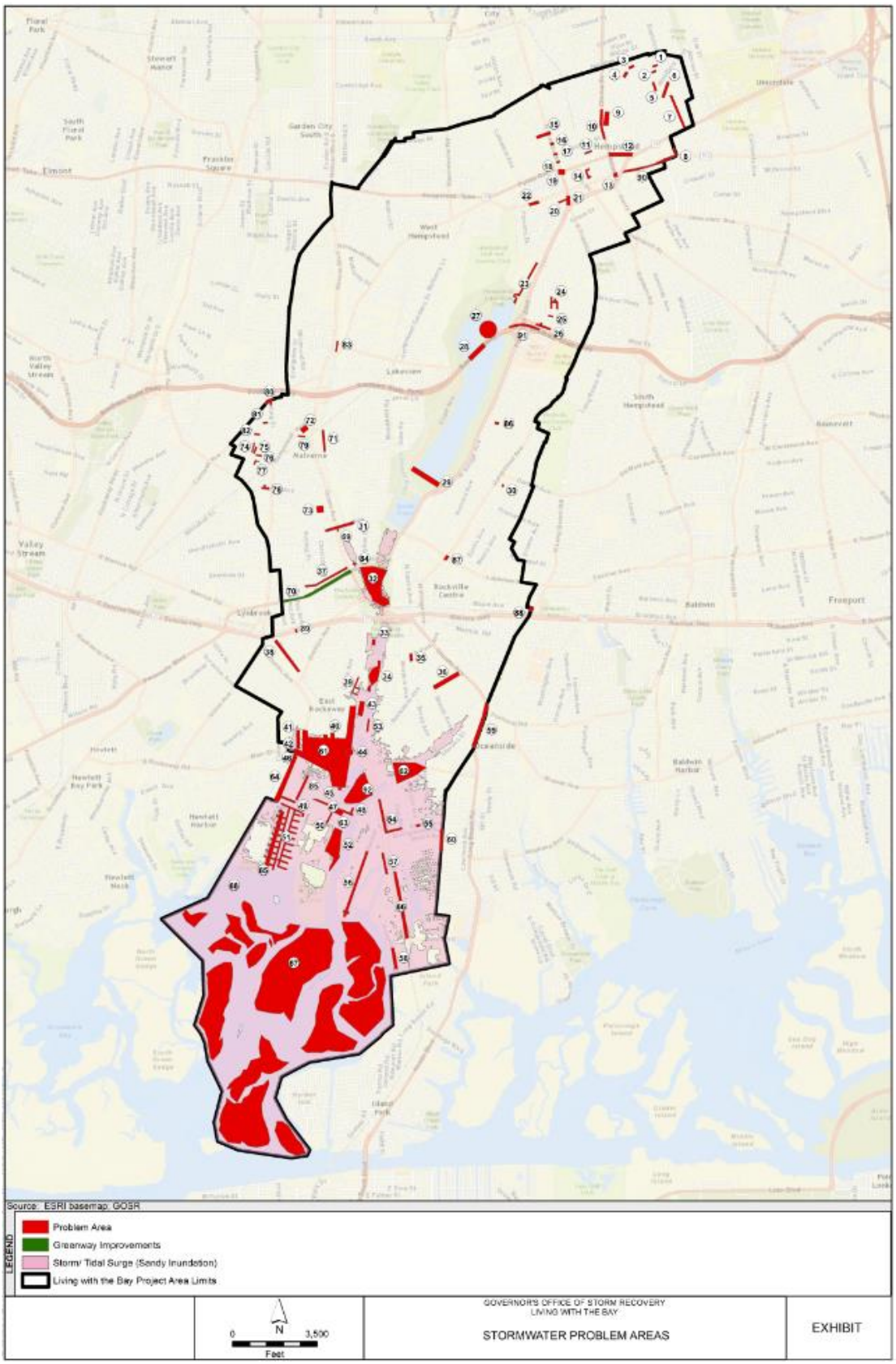
~~Like all tributaries in the region, the~~The Mill River is a product of the glaciers that formed Long Island. For thousands of years, the Mill River flowed unimpeded into the South Shore Estuary ~~(~~Reserve at South Shore Back Bay~~),~~, establishing a vital link between marine and upland habitats. Migratory fish moved into and out of the river, providing an important forage source for countless species and helping to drive the region's coastal ecosystem.

Beginning in Colonial times, the flow of the Mill River was harvested to power gristmills. The original dam at Smith Pond was constructed to power a mill. Later, in the late 19th Century, significant impoundments were established in the Mill River's upper reaches as part of the Brooklyn Water Works project, an elaborate effort to satisfy Brooklyn's rapidly growing water needs. These impoundments became the basis of Hempstead Lake State Park. As communities emerged, stormwater and sewer systems developed with outflow pipes entering the river and roads with rail lines crossing the river.

With increasing populations and development, Mill River communities have been more susceptible to flooding. This became most evident during Superstorm Sandy, when Nassau County was hit with rain and a tidal surge of up to 18 feet. Public and private infrastructure along the river were damaged including more than 7,600 homes, as well as bridges, businesses, parks, roads, schools, and a wastewater treatment facility at the entrance of the bay. Directly across the bay from the mouth of the Mill River, the Long Beach Water Pollution Control Plant was also inundated by Sandy generated storm surge, causing $2.7 million in damages and resulting in ongoing issues with the quality of treatment of effluent released into the South Shore Back Bay.

Inland communities in the area regularly experience flooding due to heavy rainfall (such as during Hurricane Irene and other more frequent storm events) exceeding the carrying capacity of the existing stormwater infrastructure. Frequent flooding has been identified by the Town of Hempstead, Village of Malvern Village, the Hempstead Public Housing Authority, and other locations within the project area. ~~As identified in Figure 7, the red areas indicate problem areas and the pink areas show inundation during Superstorm Sandy.~~

~~Figure 8: LWTB areas of flooding~~



Experience from Sandy and other storms has shown that the project area is primarily susceptible to flooding and property damage due to the following:

- Tidal storm surge during major storm events (as evident from Superstorm Sandy);
- Inundation by surface waters due to poor drainage during storm events;
- Coastal changes associated with erosion; and
- Other coastal changes associated with relative elevation changes (e.g., land/marshland subsidence and/or sea level rise).

~~The original LWBT proposal intended to address these issues through development of the following core project elements:~~

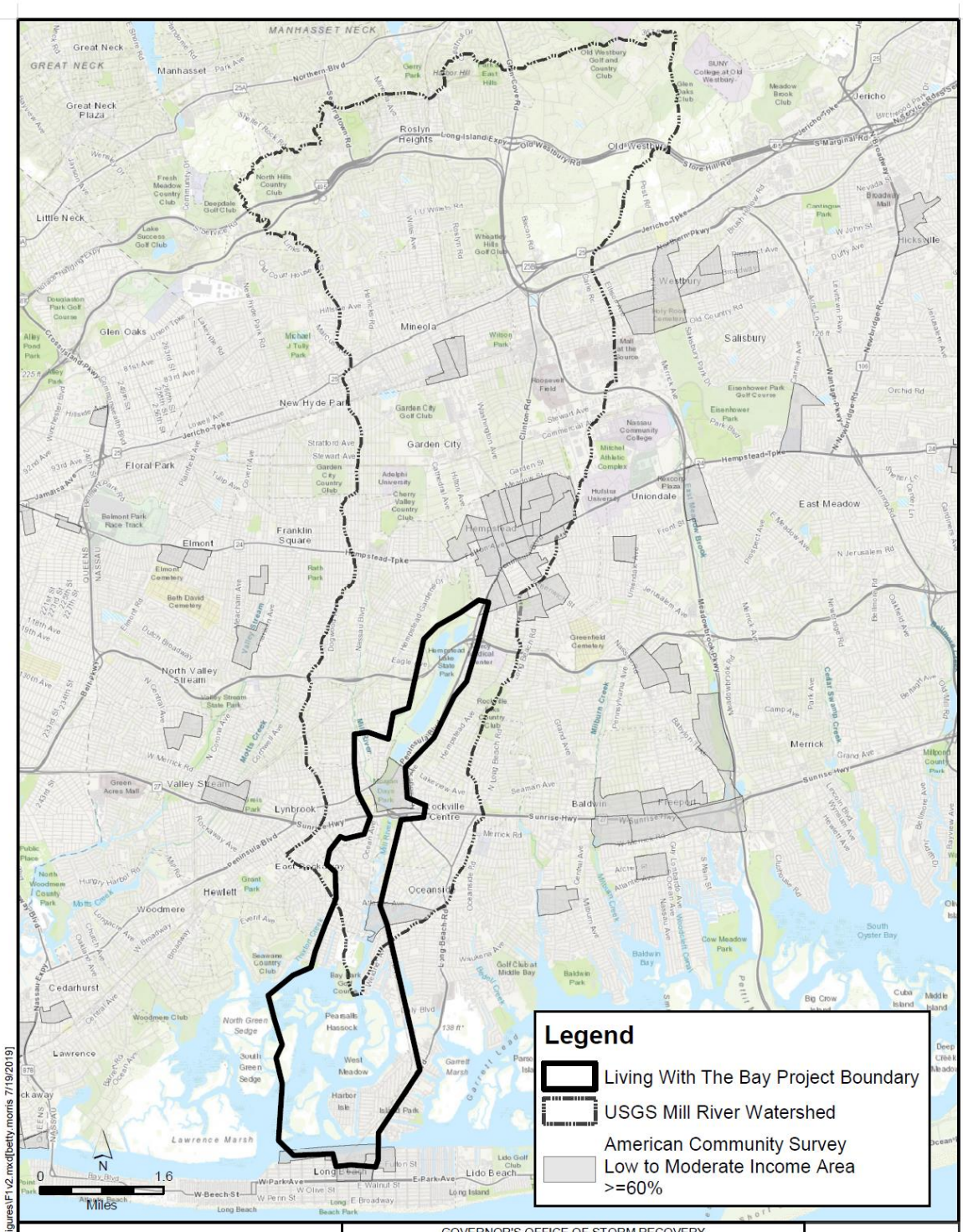
- ~~A sluice gate located downstream to reduce risks from storm surge and to manage the capacity and velocity of waters within the Mill River;~~
- ~~A blue/green retention park along the western edge of the Mill River intended to increase storage capacity and provide potential water filtration benefits;~~
- ~~Recommendations for green and grey infrastructure improvements (bioswales, cisterns etc.) in existing public right of ways throughout the Mill River watershed to increase stormwater retention, abate nuisance flooding, and provide water quality improvements from existing stormwater runoff;~~
- ~~Additional hydraulic capacity at underutilized properties by developing a public park with a retention pond and reed/sand filters; and~~
- ~~Street redesign to store and filter more stormwater run-off.~~

Upon GOSR's receipt of the project in November 2014, the State commenced a detailed review of the original LWTB concept to assess its feasibility and potential implementation challenges. The following conclusions were reached during this exercise:

- The new sluice gate had significant implementation obstacles due to the unfunded upland tie-ins necessary to make the structure an effective storm surge barrier. These upland tie-ins would have likely consisted of significant and expansive road raising projects in and throughout the existing communities. In addition to significant funding gaps, the sluice gate and road raisings would offer protection to the communities to the north, but would not prevent and potentially exacerbate surge effects in the communities to the south of the structure. The new grey infrastructure necessary for the sluice gate's effectiveness would have also had significant environmental impacts on the riverine habitat and its surrounding communities, including wide scale construction impacts associated with road raisings. The original design did not incorporate full environmental costs and ownership of land. Based on this analysis, the State decided to evaluate alternative water management strategies, including rehabilitating existing grey infrastructure as opposed to new grey infrastructure, employing wetland buffer restoration as opposed to anthropogenic barriers, and identifying strategies that offer protection along with ecological habitat improvements.
- Projects that increased stormwater capacity and provided social and recreational co-benefits, such as the blue/green water park, were worthy of further study. However, the concept's potential applicability should be expanded to include water capacity and water management projects in the northernmost, upstream reaches of the river and its source waters. This includes several dams, ponds and a reservoir, as well as the largest State public park in the region, Hempstead Lake State Park, which has Long Island's only high hazard dam and the largest publicly accessible forest in southern Nassau County.
- Projects such as bioswales and other green technologies were worthy of further

consideration, but should be implemented in accordance with an overall stormwater management plan for the watershed to ensure that the investments in these technologies would be cost-effective, meet uniform performance criteria, and operate in the most coordinated manner feasible.

- Greenways should be included in the project, based upon community input and feasibility.
- The original proposal's geography encompassed the entire Mill River Watershed, as shown in Figure 8, covering more than 35 square miles. Based on further analysis and limited funding, GOSR refined the project area. The refined project area was established based on the watershed of the Mill River, consideration of political boundaries, and consideration of other projects being undertaken in the watershed, to potentially leverage this project, and/or avoid duplication of effort.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GREAT NECK
Great Neck
Manhasset
Great Neck Plaza
Roslyn Heights
Old Westbury
Jericho
Little Neck
Glen Oaks
Mineola
Salisbury
New Hyde Park
Garden City
Floral Park
Franklin Square
Elmont
Uniondale
East Meadow
North Valley Stream
Valley Stream
Lynbrook
Rockville Centre
Baldwin
Merrick
Hewlett
Woodmere
Oceanside
Cedarhurst
Lawrence
Lawrence Marsh
Long Beach
Lido Beach
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American Community Survey
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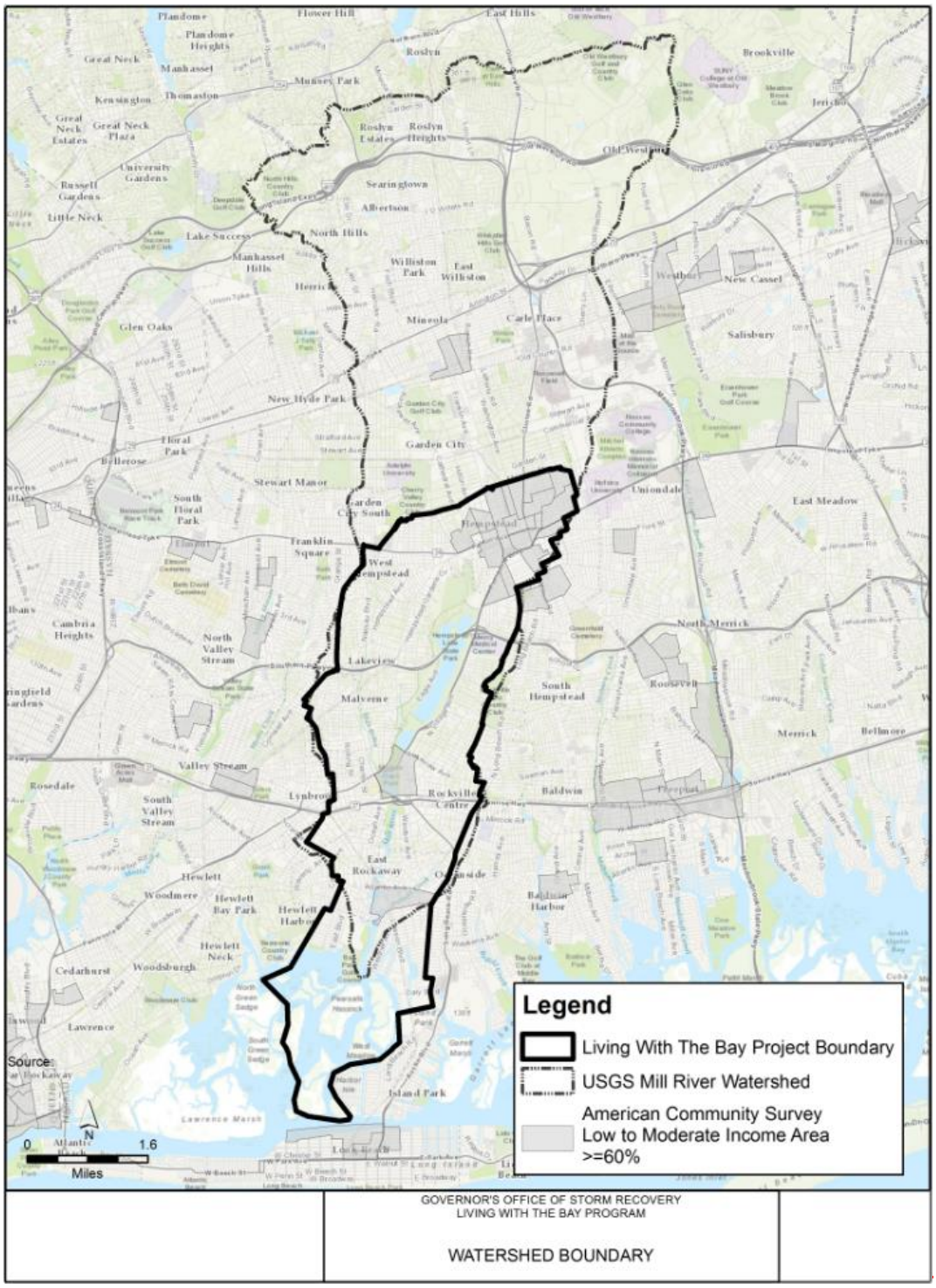
GOVERNOR'S OFFICE OF STORM RECOVERY
LIVING WITH THE BAY PROGRAM
WATERSHED BOUNDARY



Upon conclusion of the State's review, as set forth in this action plan amendment, the project has been amended to include elements that, to the greatest extent practicable and appropriate, comport with the original RBD proposal. The amended project is a combination of new and originally proposed interventions that meet the objectives of the original concepts, and achieve their benefits through feasible and implementable, less impactful and more ecologically beneficial methods. Figure 9 details the locations of LWTB projects.

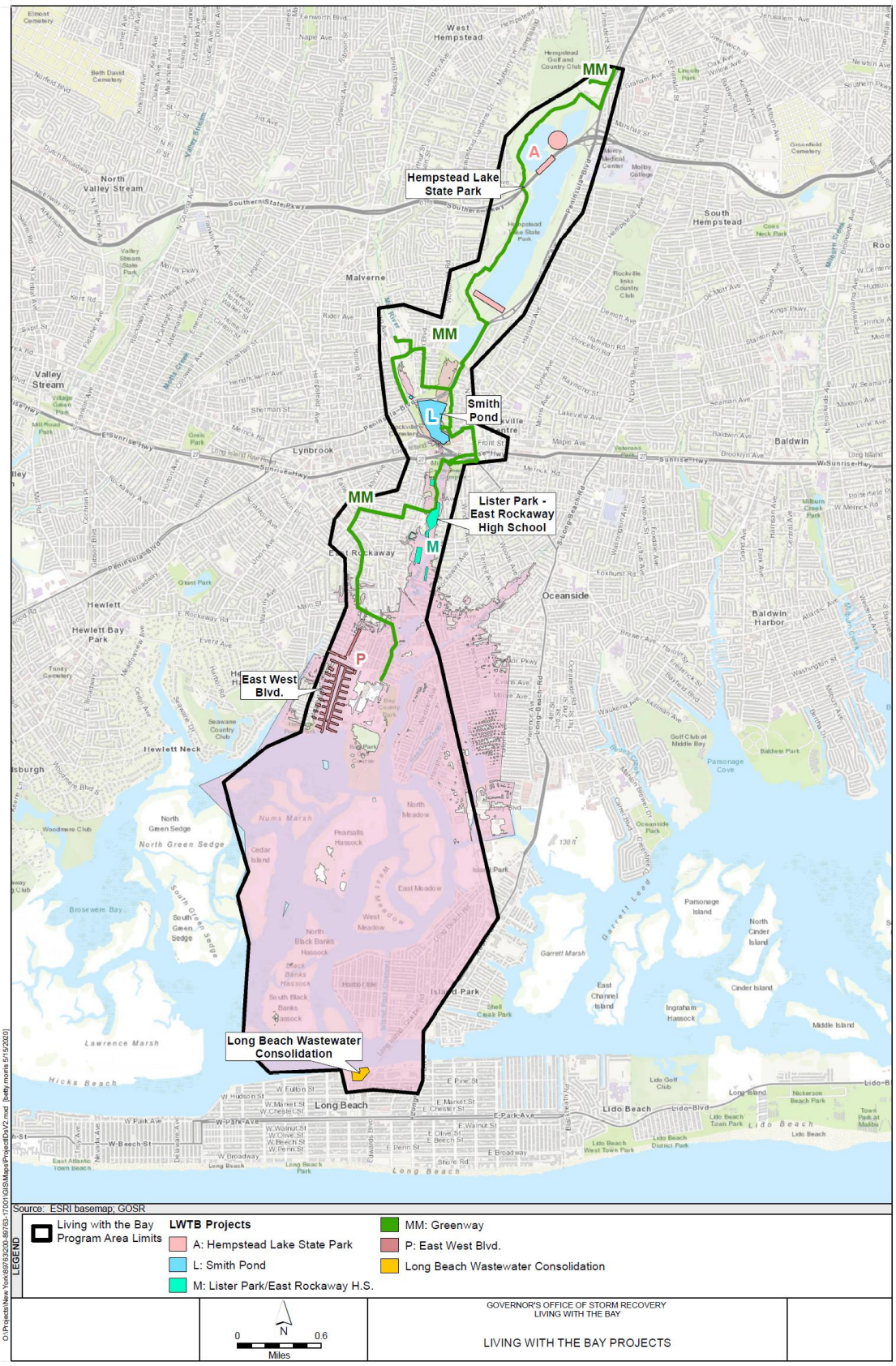


Figure 9: LWTB Projects

To assist in achieving original proposal objectives with the most effective methods possible, the State ~~is preparing~~prepared a Resiliency Strategy for the Mill River project area. The strategy ~~will provide~~provides an overview of problems within the project area to inform prioritization of potential solutions. Based on information collected to date, documented flooding problems in the project area include poor to inadequate drainage collection and conveyance capacity, high tailwater conditions deeming the existing stormwater systems inadequate for critical storms, and overtopping surge events such as Superstorm Sandy that inundated more than 3,000 residential properties. Other documented problems include habitat and shoreline degradation and decreased water quality from the effects of untreated urban runoff~~.~~ and the release of undertreated wastewater. The Resiliency Strategy ~~will include~~ proposed projects focused on addressing the problems with the anticipated sea level rise impacts accounted for in the analysis. The Strategy ~~will~~ strategically ~~prioritize~~prioritizes project components with specific timeframes and costs for planning, design, permitting, procurement, construction, and project closeout. The strategy will also provide detailed descriptions of ~~final selected~~prioritized projects that address the problems listed above, along with projects that improve the public's access to the waterfront and educate the public on stormwater and environmental management. The outcome of the Resiliency Strategy ~~will be~~was a program of thematically consistent, prioritized, impactful and constructible projects consistent with the goals set forth in the original RBD LWTB project proposal. As detailed in the Resiliency Strategy, the prioritized projects must still undergo the design, permitting and environmental review processes, meaning that further scoping and prioritization of projects is occurring as LWTB moves forward.

LWTB has developed a series of projects to address a variety of flooding sources throughout the project area in a comprehensive, practical and feasible manner. The revised project is organized into ~~seven~~eight focus areas, each tied to one or more of the four LWTB objectives. Working collaboratively with community members, municipal leaders, and not-for-profits, GOSR developed the following LWTB objectives:

1. Preserve quality of life in the community during natural disasters, emergency events, and tidal inundation.
2. Increase community resilience and improve drainage infrastructure to address the impacts of rising sea level and increased frequency and intensity of extreme weather events.
3. Incorporate environmental and water quality improvements within the projects.
4. Create and improve public access to the waterfront – lakes, river and bay.

The eight LWTB focus areas are:

~~**LWTB Objective Number 1:** Preserve quality of life in the communities during natural disasters, emergency events, and tidal inundation.~~

~~**Focus area – Coastal Marshland Restoration**: LWTB will restore, protect and/or enhance marshlands in the Back Bay at the mouth of the Mill River. The project will be designed to slow tidal storm surge velocity and enhance habitat for native species, including birds, fish, and benthic species.~~

~~**LWTB Objective Number 2, 3 and 4:** 2) Increase community resilience and improve drainage infrastructure to address the impacts of rising sea level and increased frequency and intensity of extreme weather events; 3) Incorporate environmental and water quality improvements within the projects; 4) Create and improve public access to the waterfront – lakes, river and bay.~~

- **Focus area – Hempstead Lake State Park (HLSP) Improvements**: LWTB will address stormwater storage capacity management by rehabilitating and enhancing an existing 100+ year old dam located at HLSP. As an instrument for flood mitigation, the dam (with an operating gatehouse) will provide for reduced and delayed peak flows to downstream water bodies and communities during extreme weather events. This project will have several

significant co-benefits, such as reducing the risk posed to downstream communities by dam failure and rehabilitation of this historic structure. Other improvements at HLSP, including wetland rehabilitation and dam repairs in the Northern Ponds area, will further enhance stormwater flow attenuation, improve water quality in the watershed by removing contaminants in urban run-off and provide enhanced habitat and new, expanded passive recreational opportunities. The HLSP improvements will also include a new facility to be used for education and as a coordination center during emergencies, as well as improved waterfront access at various locations, further improving recreational opportunities in this critical State park.

- **Focus area – Smith Pond Drainage Improvements**: LWTB will improve water quality, enhance recreation, restore the ecological system to promote native aquatic species and expand the hydraulic surge capacity of the pond~~, by reconfiguring the bottom of the pond. Sedimentation has reduced the hydraulic capacity of the pond to absorb stormwater first-flushes and altered the ecology to favor invasive species. Project elements anticipated include shoreline stabilization, recharge basin, permeable pavement parking lot, a fish ladder, and either rehabilitating or replacing the existing weir. Dredging, wetlands restoration, landscaping (including tree planting) and construction of greenway paths will also be evaluated.~~. As of APA 26, project elements anticipated include the removal of invasive species and replacement with native plants on the shores of the pond, improvements to existing pathways and overlooks, connection to the Mill River Greenway, adding a fish ladder, adding floodwalls to the eastern and western shores of the pond, and making improvements to ~~-~~the existing weir and stormwater improvements to an adjacent parking lot .
- **Focus area – East Rockaway High School Hardening**: Per project designs as of APA 26, LWTB will install a bulkhead to reduce erosion, protect against storm surge, and facilitate the raising of the athletic fields to provide better storm water management, and will also add drainage improvements to the parking areas for better storm water management and improved water quality. The project will also consider opportunities for stormwater storage, backflow prevention devices and a generator to support the school as an emergency shelter during disasters.
- **Focus area – Stormwater Retrofits**: The State will strategically install green infrastructure including, but not limited to: drywells, bioswales, permeable pavement, ~~tree planting,~~ and select bioretention and infiltration interventions throughout the project area. Per project designs as of APA 26, improvements along East and West Boulevards will mitigate the effects of tidal and stormwater inundation through the deployment of check valves, bioswales and permeable pavement, while stormwater best management practices such as bioswales and surface infiltration systems will be included in other focus areas to retain, treat and delay stormwater before it enters the Mill River.
- **Focus area – Lister Park:** Per project design as of APA 26, LWTB will implement a suite of resiliency, water quality and drainage improvements to an area along the Mill River comprised of the existing Village of Rockville Centre's Department of Public Works (DPW) storage yard and several public parks known as Bligh Field, Centennial Field, Lister Park, and Tighe Field. The improvements include a living shoreline to combat erosion and filter urban and stormwater runoff entering the Mill River, bioretention basins and drainage improvements to improve stormwater management and treatment, flood protection improvements to protect surrounding residential areas, and greenway connections and an improved overlook to connect residents to the Mill River.

~~**LWTB Objective Number 4:** Create and improve public access to the waterfront – lakes, river, and bay.~~

- ~~**Focus area – East Rockaway High School Hardening:** LWTB will install a bulkhead and living shoreline to reduce erosion and flooding in the athletic fields and parking areas. The project will also consider opportunities for stormwater storage, increased public waterfront access, backflow prevention devices and a generator to support the school as an emergency shelter during disasters.~~
- **Focus area – Greenway Network:** LWTB will create greenways connecting communities with sections of the project area and focus areas along the Mill River, including north ~~of~~from HLSP, ~~throughout~~through HLSP~~,~~ south to Smith Pond and ~~East Rockaway High School. The State will evaluate~~Lister Park and connecting the greenway further south to Nassau County Bay Park.
- **Focus area – Long Beach Water Pollution Control Plant Consolidation Project**: LWTB will convert the existing Water Pollution Control Plant (WPCP) at Long Beach into a resilient pump station that will send untreated effluent to the newly upgraded Bay Park Sewage Treatment Plant. Tidal inundation from Superstorm Sandy overwhelmed the Long Beach plant interrupting treatment, resulting in the release of untreated effluent into the South Bay. Damage from Sandy has resulted in legacy operational issues affecting the quality of treatment that the WPCP provides, resulting in the continued release of undertreated effluent with high levels of nitrogen which negatively impacts tidal marshes and water quality throughout the South Bay, and communities in the Mill River watershed such as Bay Park, Oceanside and East Rockaway which are impacted by the Bay's tides and storm surge. The project will preserve quality of life during increasingly frequent storm events and increase community resiliency in the face of sea level rise by mitigating the hazard of storm impacts that cause the release of untreated effluent to the Bay. The project also incorporates environmental, coastal resiliency and water quality benefits for the LWTB project area by ensuring a higher standard of treatment of effluent at the Bay Park plant.
- **Focus area – Social Resiliency Programs**: LWTB ~~will work~~has worked with relevant community organizations and~~/or~~ educational institutions to develop public education programs. These education programs will include environmental and historical education for schools and the public. Education programs include a Certificate Program for local government policy makers and staff on environmental sustainability, which will contribute to a culture of focusing on the environment in local decision-making. LWTB will also ~~look to~~ develop job training programs with a focus on green infrastructure, contributing to the social resiliency of communities along the Mill River and South Bay.

The LWTB focus areas are tied to the four LWTB objectives as follows:

LWTB Objective Number 1: Preserve quality of life in the communities during natural disasters, emergency events, and tidal inundation.

- **Focus area – Hempstead Lake State Park**
- **Focus area – Smith Pond Drainage Improvements**
- **Focus area – Stormwater Retrofits**
- **Focus area – East Rockaway High School Hardening**
- **Focus area – Lister Park**
- **Focus area – Greenway Network**
- **Focus area – Long Beach Wastewater Consolidation Project**

LWTB Objective Number 2: Increase community resilience and improve drainage infrastructure to address the impacts of rising sea level and increased frequency and intensity of extreme weather events.

- **Focus area – Hempstead Lake State Park**
- **Focus area – Smith Pond Drainage Improvements**
- **Focus area – Stormwater Retrofits**
- **Focus area – East Rockaway High School Hardening**
- **Focus area – Lister Park**
- **Focus area – Greenway Network**
- **Focus area – Long Beach Wastewater Consolidation Project**
- **Focus area – Social Resiliency Programs**

LWTB Objective Number ~~–~~3: Incorporate environmental and water quality improvements within the projects.

- **Focus area – Hempstead Lake State Park**
- **Focus area – Smith Pond Drainage Improvements**
- **Focus area – Stormwater Retrofits**
- **Focus area – East Rockaway High School Hardening**
- **Focus area – Lister Park**
- **Focus area – Greenway Network**
- **Focus area – Long Beach Wastewater Consolidation Project**
- **Focus area – Social Resiliency Programs**

LWTB Objective Number 4: Create and improve public access to the waterfront – lakes, river and bay.

- **Focus area – Social Resiliency Programs**
- **Focus area – Hempstead Lake State Park**
- **Focus area – Smith Pond Drainage Improvements**
- **Focus area – Stormwater Retrofits**
- **Focus area – Lister Park**
- **Focus area – Greenway Network**

Focus Area Timelines, Budgets, and Detailed Descriptions

The following sections provide further details on each of the eight LWTB Focus Areas outlined above, including current scope and design and construction schedule. Each Focus Area will be designed and certified by a New York State Licensed Professional Engineer. The useful life of the interventions was considered to be 50 years for planning and economic benefit evaluations. However, the capital infrastructure is anticipated to remain in use long past this period.

Focus Area: Coastal Marshland Restoration

A 2016 risk based comprehensive modeling effort conducted by Lloyds of London/Nature Conservancy evaluated the effects of marsh systems on upland damage during Superstorm Sandy. The report estimated that coastal areas with large marsh systems contributed to a 10% average reduction in property damage within the associated census tracts, with damage reduction benefits in certain areas reaching as high as 29%.

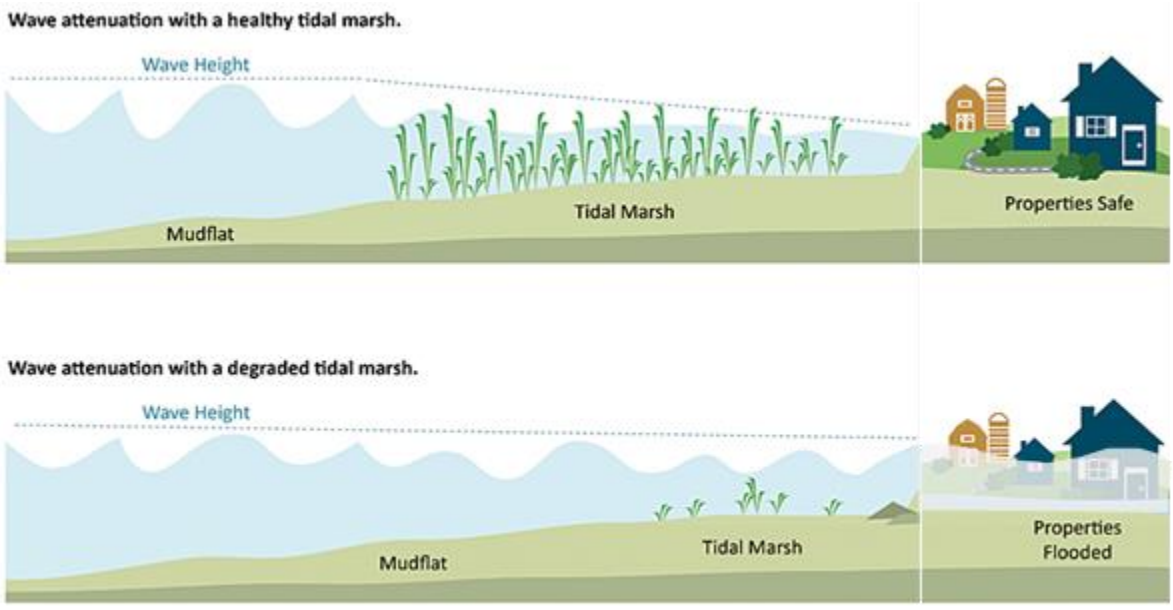
Superstorm Sandy's storm surge rose through the Back Bay and into the mouth of Mill River, flooding over 2,500 acres and 4,000 parcels in the LWTB project area. Nearly 3,300 parcels (80% of the total parcels) were residential properties. Based on research in the marsh areas of the project area, there has been significant loss of salt marsh in the Back Bay that hindered the marsh's ability to attenuate wave action.[i] Human related impacts, such as upland urbanization and increased boat use have resulted in marsh loss since 1966; although several natural factors can also be correlated with marsh loss within the project area. Environmental conditions such as wind fetch, coastal storm impacts, and tidal flows have all played a role in marsh loss.

Existing marshes in the project area are facing two significant problems that must be addressed if the marshes are to maintain their storm protection capabilities and current natural function:

- Chronic erosion losses at the marsh fringes due to waves and boat wakes.
- Degradation and loss of marsh areas due to the effects of sea level rise.

Reducing the erosion of the marsh fringes and increasing the long term stability of multiple marsh environments, are key RBD LWTB principals. Restoring the marsh will provide additional wave attenuation, while at the same time resulting in the co benefit of habitat restoration.

Figure 10: Difference in wave attenuation with and without tidal marsh



Source: Esri ArcNews, "GIS Helps Integrate Coastal Hazard Risk and Sea Level Rise," 2014

Rock sills are a common living shoreline technique for protection of fragile marsh edges. They dampen wave energy that would otherwise erode the unstable marsh fringe area. The sills can be built with an edge to allow the use of dredged material to fill the marsh areas to higher elevations. Planting a diversity of vegetation helps the newly filled areas transition into high marsh habitat;

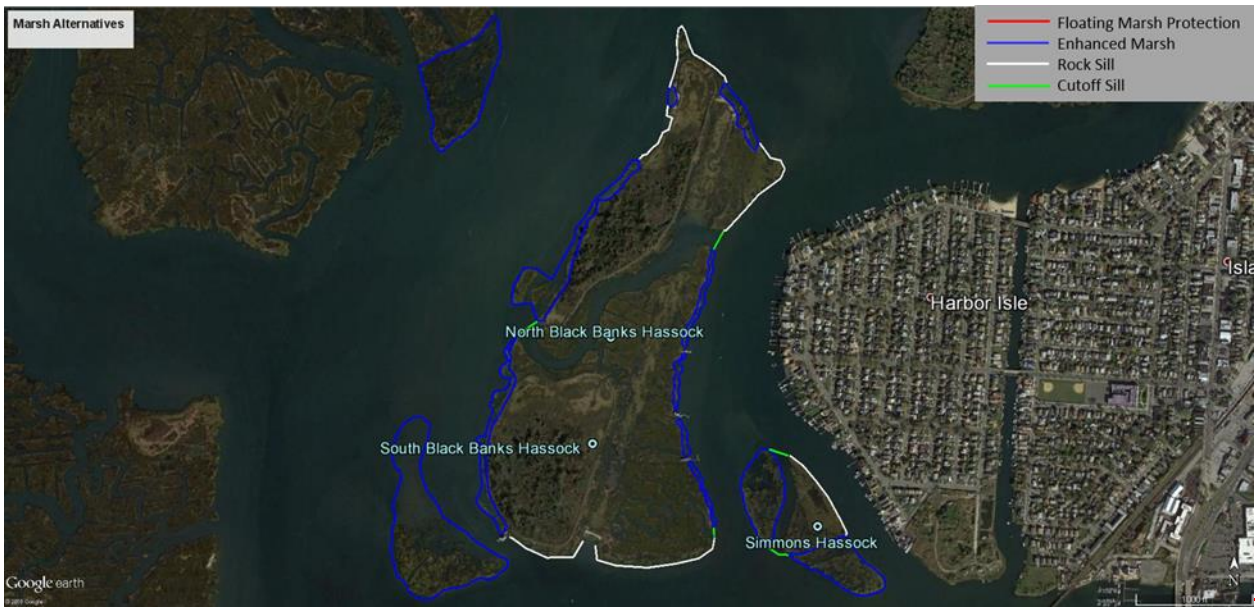
offering improved resilience to changing environmental conditions and future extreme storm events.

Floating marsh islands are another technique to protect eroding marsh edges. Floating islands are designed to mimic the natural floating marsh systems found in Louisiana and other coastal locations. Marsh plants begin to grow on mats of floating reeds to form a tightly bound mass of vegetation that is not rooted in the bottom of the water body. Artificial floating islands are constructed of durable, recycled plastics and are vegetated with native plant materials. The floating island modules are bound together and the system is anchored immediately offshore of the marsh edge. They dampen wave energy that would otherwise erode the unstable marsh fringe area. This allows the marsh system to maintain its present level of storm surge and wave attenuation.

Fifteen existing areas (with a total area of 26.9 acres) will be preserved by using rock sill with the floating marsh islands. The marshland in these areas will also be enhanced by raising many of the marshlands. Major feeder channels, open water and ponds will be avoided to reduce the impact area and to maintain hydrologic connection for marsh sustainability. There are some open water areas that may be filled with a preliminary estimate of the post improvement marsh being approximately 70% tidal flats and 30% open water. At the preliminary conceptual design phase, there are seven areas proposed for the rock sill alternative, totaling 5,572 linear feet (LF) and a total of five areas are proposed for the floating marsh alternative, totaling 6,858 LF.

Figure 11: Northern marsh improvement areas

Figure 12: Southern marsh improvement areas



~~Currently, the estimated budget for this focus area is approximately $15 million. As part of the Resiliency Strategy, described previously, GOSR will identify solutions to advance to full design and construction. Coastal Marshland Restoration is expected to reach 100% design in the second quarter of 2019 with construction expected to take place from the third quarter of 2019 to the third quarter of 2022.~~

Focus Area: Hempstead Lake State Park Improvements

As the Mill River watershed is an interconnected system, the LWTB project recognizes that both upstream and coastal interventions were required to address two of the largest vulnerabilities faced by surrounding communities during Superstorm Sandy: coastal surge and stormwater flooding. The interventions proposed within HLSP ~~not only address stormwater flooding concerns, but also look to increase capacity and efficiency of the northern end of the system,~~improve water quality and preserve the value of existing habitats within the Park while simultaneously introducing recreational and educational opportunities for citizens to learn about and connect with their natural environment, therefore contributing to the community's social resiliency. Interventions within HLSP are organized into four sections:

1. Dams, Gatehouse and Bridges
2. Northwest (NW) and Northeast (NE) Ponds
3. Environmental Education and Resiliency Center
4. Greenways, Gateways and Waterfront Access.

~~Currently~~As of APA 26, the estimated budget for this focus area is approximately $35 million. The HLSP improvements are expected to reach 100% design in the ~~third~~first quarter of ~~2017~~2021 with construction expected take to take place from the ~~fourth~~second quarter of ~~2017~~2020 through the second quarter of ~~2019.~~ 2022. As a stakeholder and a ~~sub~~recipient of ~~-~~disaster recovery funds from GOSR, the NYS Office of Parks, Recreation and Historic Preservation (State Parks) is responsible for funding the long-term operation and maintenance of the overall HLSP improvements.

Dams, Gatehouse and Bridges

This section focuses on improvements to the Mill River dams located within HLSP and enhances the function of the dams as a key instrument for flood mitigation. This work also includes design

of pedestrian bridges that are part of the adjacent shared-use path system that increase access and connectivity throughout the park.

The NW Pond and dam were constructed in the 1960's around the same time as a large (96" diameter) drainage pipeline was installed through Hempstead to discharge stormwater runoff from the surrounding community into the NW Pond. The dam provided attenuation of peak stormwater flows from the 96" pipe, allowed sediments to settle out of the runoff, and also prevented floatables from reaching downstream into Hempstead Lake. As a result of the dam being breached in 2012, flow through the NW Pond is uncontrolled bringing sediment and floatables into Hempstead Lake.

Modeling has indicated that constructing a new dam, with an appropriate spillway elevation, at the NW Pond will lessen the impacts to the larger Hempstead Lake Dam during a major storm event. A new NW Pond dam will maintain ~~more~~ water at current elevations within the pond limits, encouraging the growth of wetlands which in turn will provide filtering and enhanced water quality~~.~~.. The dam will help attenuate peak flows from the upstream drainage collection systems allowing for better control of flows in the overall watershed, and flood mitigation. By reestablishing ~~the depth in the pond area,~~a functional dam, the water level will be controlled, and the dam will allow sediment to be filtered out before reaching the downstream waters (especially after the "first flush"), thus enhancing and improving water quality downstream.

Once the NW Pond Dam is in place, flows can be directed downstream of the dam through an open channel and culvert under the Southern State Parkway and into Hempstead Lake. ~~A~~Per project design as of APA 26, a timber pedestrian bridge will be provided to carry a shared use path that encircles Hempstead Lake over this channel. Installation of the bridge will allow removal of existing twin 60" diameter pipes that currently limit flow through the channel (and also create the potential for an unplanned impoundment if blocked), while providing for uninterrupted access to the pedestrian pathway. Modeling has indicated that the removal of the twin pipes would enhance the flow between the NW Pond and Hempstead Lake, which is an important aspect of the project goals. The bridges will be designed to accommodate emergency vehicles, thereby improving emergency access and response times, maintenance vehicles, pedestrians, and horses.

The Hempstead Lake Dam, gatehouse and pipe arch were constructed in 1873. The dam's outlet-controls (currently not functional) are housed in the historic gatehouse structure, that directs water flows through an attached brick pipe arch that extends from the dam into South Pond. HLSP will replace all five of the sluice gates at the dam and provide new gate controls in the gatehouse. An operating plan will be developed to actively manage water flow in small and large storms events. In all, installation of new outlet gates, inspection catwalk and water level monitoring equipment at the dam gatehouse will allow for control of flows through the Park, over the dam, and into the lower reaches of the watershed. Flow-control is key to flood protection and dam safety, as well as maintenance of lake levels for recreational and ecological purposes. In particular, the ability to draw down lake levels prior to the onset of an extreme precipitation event, may reduce peak flows downstream, and will enhance dam safety. As a part of this project, and in accordance with NYSDEC dam safety requirements, trees and vegetation will be removed from the dam to ensure the dams integrity and to allow for proper, ongoing inspections. In addition, vandalized stonework at the historic inlet gatehouse at South Pond will be restored to ensure the integrity of the structure and historical accuracy.

The Dam work proposed throughout HLSP is being progressed in accordance with the overall LWTB project to help improve flood management, water quality, dam safety and ecological conditions throughout the Mill River watershed. This project will enhance public safety and resiliency, provide connections to the adjacent communities, encourage usage of the natural facilities in the Park, and provide environmental education and interpretation opportunities.

Northwest and Northeast Ponds

The NW and NE Ponds, known as the "~~North~~Northern Ponds," are located in the northern portion of HLSP and are fed by the Mill River, groundwater, and from multiple stormwater drainage systems. The ponds are separated from Hempstead Lake by the Southern State Parkway. ~~Improvements~~As of APA 26, improvements to the NW and NE Ponds (in addition to the dam replacement described above) include~~ dredging to increase storage capacity,~~ wetland creation and restoration, and installation of a culvert and floatables catcher. Currently, the ~~North~~Northern Ponds area is ~~extremely underutilized, owing to~~ degraded ~~environmental conditions,~~due to runoff from an urbanized watershed leading to extreme ~~litter~~floatable accumulation~~,~~ and ~~dying wetlands~~impacted water quality.

Over time the watershed for the ponds has become urbanized, increasing run-off volume and pollutant load. Flow into the ponds carries pollutants from urban run-off. There are significant floatables deposits, sediment loads and oil residue apparent near many of the outfalls. Water sampling confirms this pollutant load, particularly during the first flush at the onset of a rain event. The high run-off sediment load has filled the creek channel and the high velocity of the runoff entering the Mill River channel has resulted in significant erosion of the channel that is deposited into the ponds and surrounding area. This project seeks to mitigate the pollutant levels that enter the ponds and utilize new and restored wetlands to filter other pollutants from the runoff, which in turn will improve the water quality entering Hempstead Lake and downstream into the bay. By installing a floatables catcher at the Northeast corner of the Northeast pond, floatable deposits coming from the watershed north of the park and accumulating within the Ponds and downstream Hempstead Lake will be significantly reduced. The improved wetlands will also ~~provide~~contribute to the community's social resiliency by providing enhanced passive recreational opportunities, including bird watching, as native plantings are expected to ~~restore populations of local and migratory bird species~~improve wildlife habitat.

Overall, the NW and NE Ponds environmental and stormwater mitigation improvements will result in improving stormwater management, improved water quality, reduced erosion through stabilization of the channel within the Park, creation and restoration of diverse habitats and ecosystems and enhanced social connectivity with a continuous greenway extending to the surrounding neighborhoods.

Figure ~~13~~10: Current conditions at the Northeast Pond, HLSP

Environmental Education and Resiliency Center

The Environmental Education and Resiliency Center (The Center) at HLSP will be a new and unique hands-on learning center about storm resiliency and environmental management~~,~~ and will provide educational opportunities and an emergency coordination center for the immediate communities to aid with disaster response. The facility will provide an outreach and educational opportunity for the local community, as well as nearby user groups and school districts that frequent the park.

The Center is being designed to act as a "coordination center" during times of emergency for the following purposes:

- "Command Post" for local disaster response coordination either for agency staff or other agencies such as the NYS Park Police and the Nassau County Police Department. The existing parking area (Field 1) is also utilized by Public Service Electric and Gas (PSE&G) for emergency response staging of equipment in advance of severe weather events. The Center will provide a location for PSE&G staff to coordinate equipment staging, enhancing their emergency response to restore critical utilities and thereby help to promote safety and economic resiliency in the community and region.
- The Center may also serve as an information center if needed, for local residents after an emergency. Parking is available at Field 2 or access via the greenway that provides connection points to the surrounding neighborhoods and communities, some which are predominately low to moderate income. The building will include an emergency generator to provide resiliency and continued functionality during power outages.
- Monitoring station for water levels in HLSP ponds and lakes to inform water management decisions during storm events.

The Center is also being designed to include space to provide for additional partnerships with environmental education, non-profit organizations, educational institutions, community organizations, such as the Nassau County Law Enforcement Explorer Program (Explorer Program), that will use the Center for training space to promote and deliver their programs within the park. The Explorer Program is a volunteer program that provides an opportunity for at risk and low to moderate income young adults to receive basic law enforcement training and to learn about career opportunities within law enforcement. In addition to training and education, volunteers participate in community service events throughout the year to encourage volunteerism and build stronger communities. The space provided to the Explorer Program will serve as a center for local community outreach by the police, educating and positively engaging young people through mentoring and education; further strengthening the connection to the community, giving youth an opportunity for a sense of place and ownership to the park and surrounding community.

Additionally, the Center will also serve a central focal point and core for the park with connections to the greenway, providing educational and community spaces connected to an overlook deck with views of Hempstead Lake and a location where park information can be distributed explaining climate change impacts, community resiliency processes, environmental preservation, and other items of local relevance. The Center will also provide essential facilities to help with building partnerships with local school districts to utilize the education space and wet lab for hands-on learning and activities; engaging young minds through activities that reflect the local surroundings and foster stewardship. The Center will be focused primarily around the importance of environmental education and stewardship, providing a connection between the community and the environment, while also providing a resource, specifically during extreme weather conditions. There will also be information about the Mill River system's local wildlife and the history of the area.

The Center will be constructed to reduce environmental impacts through an -approach that focuses on lower operating costs through environmentally conscious building design. The building will be used to educate users about sustainable building practices and construction. The building will be designed with the following key features:

- Robust and sustainable exterior envelope optimized to suit local climate demands.
- Awareness of solar impacts (i.e. siting) and control (i.e. glazing) to reduce heating and cooling loads.
- LED lighting with occupancy sensing and daylight harvesting to reduce electrical usage.
- Photovoltaic roof panels to offset electricity energy usage.
- High-efficiency, low/no water plumbing fixtures.
- Windows designed to minimize bird strikes.

Greenway, Gateways and Waterfront Access

Access improvements, including greenways, gateways and new waterfront infrastructure included in the project designs as of APA 26, will increase the community's connection to Mill River, an important component of the winning RBD LWTB project concept. Connections to surrounding communities and in particular, Hempstead High School students, and other surrounding neighborhoods will draw visitors to the lake and river, with the enhanced, direct, and ADA compliant access this project provides to the water.

Greenways and trails will provide a physical connection linking the ecological network and the communities along the Mill River project area. The greenway provides a unique opportunity to connect the public and provide them with the opportunity to walk the river and learn along the way about the river system through educational signage.

On a daily basis, the trails and greenway will be open to the public for recreational use (walking, jogging, biking, horseback riding, bird watching, etc.) providing connection points to the surrounding neighborhoods and an economical way for people to exercise, increasing the health and well-being of its users, with attention to developing physical environmental connections to nearby underserved communities. The trails and greenway will also provide access to the ponds and lake for other types of recreation such as fishing and kayaking.

Improvements to an existing parking area, utilizing green infrastructure, will be implemented to provide local and regional patrons with improved access to the park to enjoy the Mill River project area. In addition, this centralized parking lot is in close proximity to local mass transit.

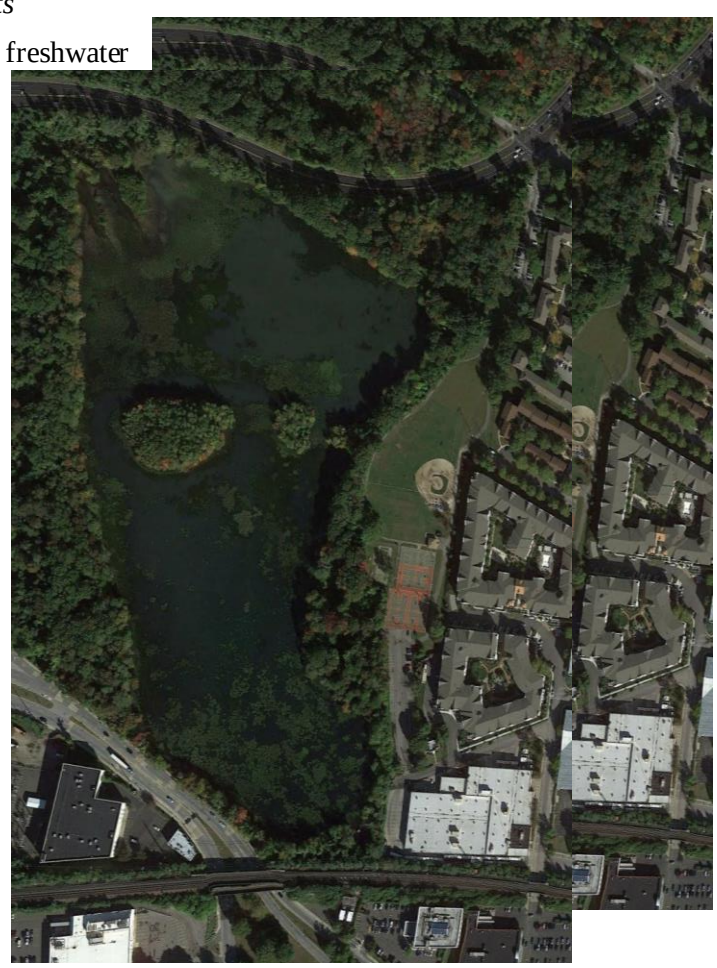
The improvement and creation of gateways into the park will provide new direct, pedestrian access from the adjoining neighborhoods, a significant portion of which are low to moderate income communities. These gateways will also provide a sense of security within the park, by opening views and providing additional access points for emergency vehicles.

~~The~~As of APA 26, the park waterfront enhancements and improvements will include new amenities such as ~~trails along the waterfront; a new crossing at Schodack Brook Bridge to allow users to traverse the entire park from north to south; potential piers/kayak launch area,~~an ADA compliant ~~docks~~dock for fishing; a kayak launch/educational ~~piers;~~pier; and an observation overlook to facilitate birdwatching~~; and open views to enjoy the scenic waterfront.~~.

Figure 11: Smith Pon ~~**Figure 14: Smith Pond**~~

Focus Area - Smith Pond Drainage Improvements

Smith Pond, shown in Figure ~~13~~11, is a 22-acre freshwater pond located in the center of the LWTB project area just north of the Sunrise Highway in the Village of Rockville Centre. The pond is associated with Morgan Days Park and is managed by the Village of Rockville Centre. The Pond is the confluence point of the two primary drainage branches (Pines Brook and Mill River) conveying water from the north end of the Mill River watershed — one on the north eastern side coming from HLSP, and the other on the north western side originating north in the Garden City area.



The Pond receives both the flow (water quantity) and the nutrient loads (water quality) for the entire watershed. Smith Pond is also a unique location as the connecting water body between the upper freshwater system and the lower tidal and salt water system. The Pond's location provides an advantageous opportunity to incorporate RBD and LWTB concepts of ecological restoration, access and urban quality and social resiliency in the Mill River corridor.

~~The~~As of APA 26, the proposed improvements under consideration at Smith Pond are ~~dredging,~~ habitat restoration, storm attenuation, and improving public access. A dredging management plan ~~will be~~was prepared evaluating the opportunity to increase water depths to

greater than eight feet~~. This could supplement~~, but high costs associated with the disposition of dredged material rendered this option impractical. Instead, the addition of flood-walls on the east and west sides of the pond will achieve comparable benefits by supplementing storm runoff attenuation capacity by increasing pond volume~~, while~~ and therefore removing areas adjacent to Smith Pond from the 100-year floodplain.~~-~~Improvements to the weir will be made to accommodate impacts the flood walls have on the flood waters of the pond, and address any weaknesses determined through an inspection, to ensure its longevity.

The proposed interventions will also include improving environmental conditions. Currently, shallow water depths in the Pond, combined with high nutrient loads from upstream runoff, contribute to invasive plant over growth and dominance in the Pond. ~~Dredging~~The proposed project will remove invasives, particularly lily pads, which will provide improved habitat needed for fish and ~~deeper water should improve conditions such that invasives could be controlled or eliminated. It appears that dredging of as little as 33,000 cubic yards of pond bottom at average dredge depths of 12-24 inches, could~~other aquatic life and result in significant environmental improvement. ~~Part of the dredging plan will include opportunities for improving pond bottom habitat for fish so that with the~~The inclusion of a fish ladder at the Pond weir will provide passage for both herring and the American eel, and as a result of the removal of invasives, the fish will have appropriate habitat in the Pond. Invasives will also be removed from certain sections of the shore and will be replaced with native plants, further improving the natural flora and fauna of the park. The project also proposes improvements to existing pathways and overlooks, as well as connection to the Mill River Greenway, which will improve public access to the waterfront by connecting the South Shore's communities to the natural beauty of the pond and park. Finally, the project also proposes installing permeable pavement in the adjacent parking lots to improve stormwater management and drainage.

One of many benefits of this project will be the ability to monitor this work as an example of a successful scalable strategy that could be replicated elsewhere in other highly developed watersheds. Currently, the estimated budget for this focus area is approximately $11.6million. The Smith Pond Drainage Improvements are expected to reach 100% design in the second quarter of 2020 with construction expected take place from the fourth quarter of 2020 to the second quarter of 2022.

~~Currently, the estimated budget for this focus area is approximately $22.6 million. The Smith Pond Drainage Improvements are expected to reach 100% design in the first quarter of 2018 with construction expected take place from the second quarter of 2019 to the third quarter of 2022.~~

Focus Area - Stormwater Retrofits

A critical piece of the LWTB project is addressing flood mitigation. For the project area, this includes finding solutions to chronic drainage problems in the community that continue to worsen as a result of more frequent critical storm events and tidal surge, and the problems experienced during and after Superstorm Sandy. The approach to address this is through a variety of retrofits incorporating stormwater best management practices (BMPs); which complements an underlying theme of the LWTB concept – that the project components can be duplicated elsewhere in the project area and on Long Island.

The LWTB design identified the desirability of green infrastructure retrofit projects which will improve stormwater collection and conveyance to mitigate flooding and incorporate water quality improvement components. These green infrastructure retrofits can be combined with gray infrastructure improvements to provide additional protection to communities. Some of the project types ~~which are being developed~~ discussed in the Resiliency Strategy (noted above) include:

Parcel-Based Green Infrastructure. Green infrastructure typically incorporates multiple practices utilizing the natural features of the site in conjunction with the goal of the project. Multiple BMPs can be incorporated into a site to complement and enhance the current land use while also providing volume reduction and water quality treatment. Green infrastructure practices are those methods that provide control and/or treatment of stormwater runoff on or near locations where the runoff initiates. Typical parcel based practices include approaches such as vegetated infiltration basins, stormwater wetlands, and subsurface practices as shown in Figures ~~13~~12 and ~~14~~13. Publicly owned open space parcels ~~will be~~were evaluated throughout the watershed to identify potential opportunities to incorporate green infrastructure practices to reduce flooding in areas with limited or no drainage infrastructure.

~~As shown in Figure 7 (map 'problem area' number 9), the Hempstead Housing Authority (HHA) is located in a low-lying area affected by 10-year flood events. The proposed interventions for the HHA includes mitigating stormwater flow, and elevations by creating a stormwater storage/recharge basin.~~

Figure ~~15~~12: Typical surface infiltration basins

Figure ~~16~~13: Stormwater wetland in a park

Green Streets. Green streets are a dense network of distributed BMPs concentrated on a public right-of-way. Green streets are often referred to as BMPs, but actually employ multiple distributed BMPs in a linear (rather than parcel-based) fashion. The green street BMP configuration strategy implements BMPs within the street right-of-way with designs that reduce runoff volume and improve water quality of the runoff both from the street and adjacent parcels. Green Street features can include vegetated curb extensions incorporating bioretention, sidewalk planters, bump outs at intersections incorporating bioretention, permeable paving, and suspended pavement systems. Green streets can be implemented throughout residential areas to reduce localized flooding in places where there are micro depressions and little or no drainage infrastructure.

The most common approaches include bioretention areas located between the edge of the pavement and the edge of the right-of-way, and permeable pavement installed in the parking lanes. ~~Permeable pavement in Long Island is less desirable due to the use of sand to treat roadways and the limitation of small municipalities to expand maintenance activities.~~Due to improvements in construction materials, maintenance on permeable pavements typically occurs once a year. An alternative option for integrating water quantity and water quality improvements is to integrate storage and treatment under the sidewalk using a suspended pavement system. Suspended pavement uses structural frames to support the weight generated by sidewalks and roadways while providing open void space for runoff storage and treatment underneath. The runoff is treated as it passes beneath the pavement and through an engineered soil media before exiting through infiltration or an underdrain. Suspended pavement systems allow for the integration of BMPs with little to no disturbance to the surface~~,~~ and serve as an improved BMP over more traditional dry wells located throughout the project area.

The benefits of green streets ~~will be~~were evaluated using a multi-step process to (1) evaluate the typical green street configuration (2) quantify potential unit load reductions and (3) apply the unit load reductions to streets throughout the watersheds based on expected opportunity. The storage and treatment capacity of the green street can be significantly increased by utilizing available storage under the full width of the right of way. Substantial flood mitigation combined with water quality improvement may be possible. Figure ~~16~~14 shows some of the potential components of a green street or right-of-way system, including suspended sidewalk and bioretention. Figure ~~17~~15 shows a typical green street cross section. Although utilization of suspended pavement systems is a stormwater management BMP, the extensive excavation work required to implement these systems makes them better suited for new construction, and often impractical for improvements to existing roadways.

Figure ~~17~~14: Suspended sidewalk system (left) and bioretention in the Right-of-Way (right)

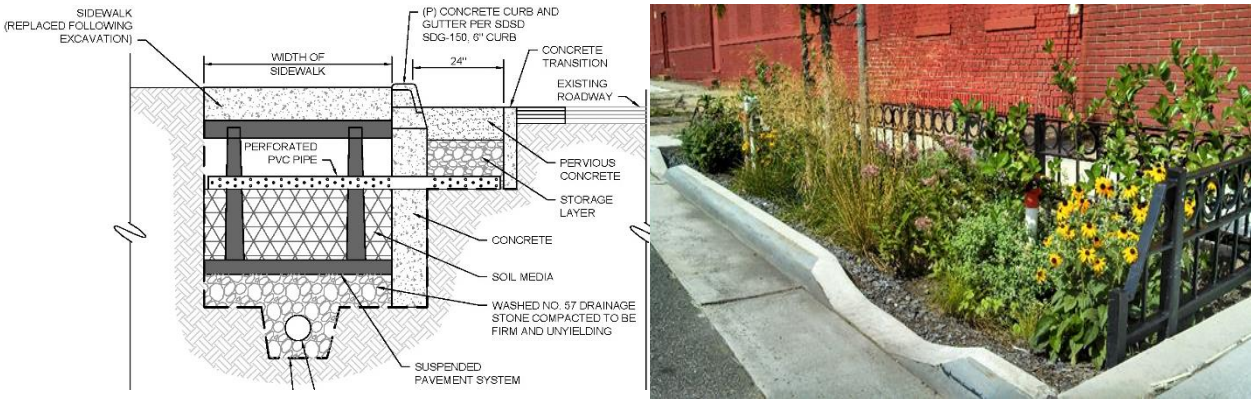
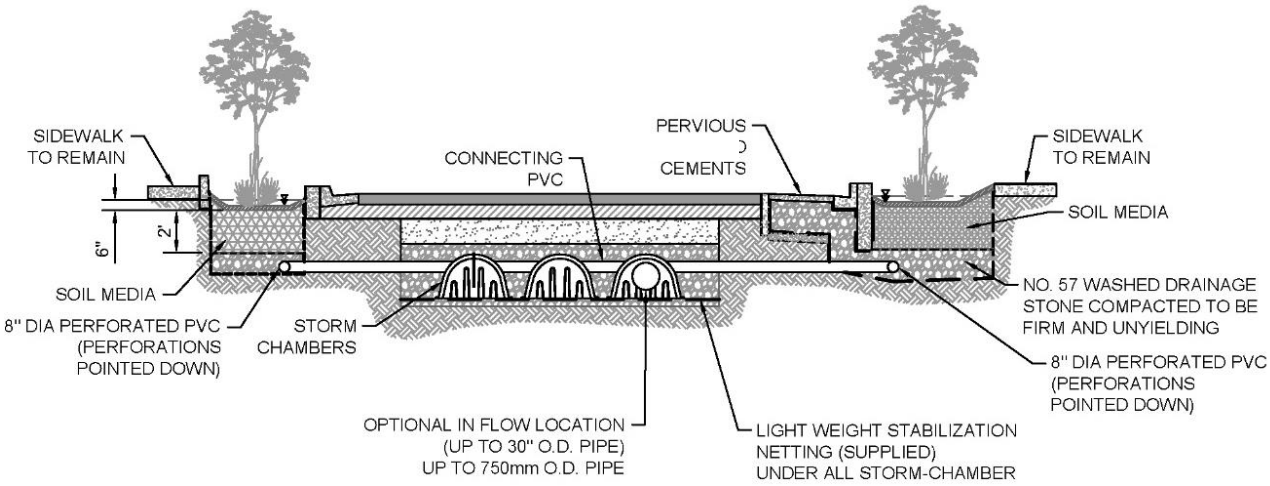


Figure ~~18~~15: Typical green street cross section



Green-Gray Infrastructure. In some cases, traditional structural or "gray" infrastructure in the form of additional inlets and stormwater pipe will be required to provide the necessary flood mitigation. At locations where this will occur, the design team will incorporate "green" infrastructure elements that will provide more ecological and environmental benefits where practical. Exfiltration beds and/or structures could be utilized to retain and treat the runoff rather than sending the collected water immediately downhill. In addition, minor design elements, such as stormwater structures with sumps (two- to three-foot-deep bottoms) can help collect sediment prior to being discharged to downstream surface waters.

Figure ~~19~~16: Typical green-gray infrastructure construction

~~Currently, the estimated buget for this focus area is approximately $3.9 million. The Stormwater Retrofit projects are expected to reach 100% design in the fourth quarter of 2018 with construction expected to take place from the second quarter of 2019 to the third quarter of 2022.~~

Following the project prioritization through the Resiliency Strategy Plan and further consideration relating to environmental review and permitting requirements, the LWTB project is proceeding

with stormwater interventions at East and West Boulevards in the Town of Hempstead. These corridors serve as "lifeline" routes that connect the communities to emergency services locations and critical facilities, and allow residents to evacuate to higher ground during storm events. Under current conditions, continual flooding from both rainfall events and tidal inundations has had many negative impacts to the delivery of municipal services, private property, safety, and quality of life throughout the community.

The East and West Boulevards project includes stormwater BMPs discussed above to reduce the risk and impacts of flooding on these vital arteries during both rain and tidal flooding events. As of APA 26 the proposed interventions include installing 13 check valves at drainage outfalls that are located below the high tide elevation, allowing tidal waters to enter the drainage system through the unprotected outfalls and overflow inlet structures onto the streets. These valves will prevent tidal waters from entering the system but allow for storm water flow to exit the system during low tides. In addition, proposed porous asphalt shoulders on both sides of the roadways with new stone reservoirs under the roadway pavement represent a multifunctional, low impact development technology that integrates ecological and environmental goals, and allows for stormwater infiltration and retention during storm events. The proposed project will also include bioswales surrounding the Grand Canal. Currently, the estimated budget for this focus area is approximately $7.4 million. The East and West Boulevards project is expected to reach 100% design in the second quarter of 2020, with construction expected take place from the fourth quarter of 2020 to the third quarter of 2022.

The LWTB project also incorporates some of the green infrastructure stormwater BMPs discussed above into other focus areas, such as bioswales along the Greenway, and a surface infiltration system at Lister Park, which will contribute to stormwater delay and retention before it enters the Mill River.

Focus Area – East Rockaway High School Hardening

The East Rockaway High School is situated along the west bank of the Mill River, just north of Pearl Street, in Nassau County (see Figure ~~19~~17). Superstorm Sandy caused heavy rains and storm surge resulting in flood waters flooding the School's northern and eastern property and entering the School's buildings and facilities. The boiler room, auditorium and gymnasium wings, teacher parking lot, and sports fields received the most pronounced damage. The building's floor crawl space typically has flooding associated with normal tidal cycles due to porous soil conditions, however the high level of water from Sandy caused scour below the pile caps and left pools of sewage & fuel oil polluted water. Lack of sufficient backwater valves also created water infiltration of the sanitary outfalls.

Figure 17~~20~~: East Rockaway High School

The School's buildings and grounds were repaired after Sandy and a recently approved FEMA project is intended to mitigate the flooding of the School's buildings. The teacher parking lot and athletic fields routinely ~~floods at an approximate 1-year storm event frequency and, along with~~flood from rainfall and, the sport fields~~,~~ remains vulnerable to frequent tidal flooding and shoreline erosion. The bleachers and two story storage and press box at the sports field are on the verge of falling into the Mill River due to ongoing shoreline erosion.

The presence of the continuous stretch of publicly owned land along the western bank of the river at the School and to the north and east of the School offers ~~a range of opportunities~~an opportunity to implement ~~several~~the RBD LWTB ~~goals protect~~goal of protecting and ~~increase~~increasing the resiliency of a critical community asset from flood damage~~ and create and improve waterfront access for the public. Potential~~. As of APA 26, potential resiliency interventions for protection and social resiliency include linear flood risk mitigation and shoreline stabilization with design considerations to alleviate the tailwater and surge flooding occurring in the teacher parking lot and sports field. Living shoreline elements with stormwater outlet treatment systems to improve water quality in the area ~~and improve connectivity for the public to the waterfront~~ are also being incorporated.

As noted, the School's sports field bleachers are located at the river bank. Due to ongoing erosion of the bank, the structural stability of these stands is being compromised. The design proposal provides an integrated solution that stabilizes the river bank, raises its flood protection level, and enhances the conditions for the grandstand. The design incorporates the current 100-year FEMA flood map and calls for an elevation of ~~9~~7.2 feet.

The goal for this area is to determine the feasibility of design options that help reduce the School's vulnerability to flooding and stabilize its eroding shoreline. ~~The designed interventions also have the opportunity to facilitate a continuous north-south route along the water for pedestrians and~~

~~cyclists in the form of the Blue-Green Park, and contribute to improving the quality and operations of the School and its sports fields by enhancing the connection between the School and the river.~~

Currently, the estimated budget for this focus are is approximately $~~4.~~6 million. The East Rockaway High School Hardening project is expected to reach 100% design in the ~~first~~second quarter of ~~2018~~2020 with construction expected take place from the ~~second~~fourth quarter of ~~2019~~2020 to the third quarter of 2022.

Focus Area – Lister Park

The Lister Park Improvements project area is located within a residential setting within the Village of Rockville Centre and comprises the existing Village Department of Public Works (DPW) storage yard and several public parks known as Bligh Field, Centennial Field, Lister Park, and Tighe Field. The site is bounded by Merrick Road to the north and East Rockaway High School to the south and by residential developments to the east and west.

During Superstorm Sandy, many residential properties along the Mill River were inundated with stormwater. The area experiences routine flooding and ongoing erosion along the river's edge. Currently, the parking lots for Lister Park, Tighe Field, and Centennial Park are subject to flooding during higher rainfall events and tidal backup. Areas along the east and west banks of Mill River experience shoreline erosion due to high river velocities and tides and/or have been hardened, eliminating their ecological habitat. At present, bike and pedestrian access to the waterfront in the project area is limited.

The goals for the Lister Park Improvements project include providing flood protection to the surrounding community to mitigate future damages to the community, like those experienced from Superstorm Sandy, through flood defenses and stormwater management improvements. The project will also involve enhancing waterfront access, providing connectivity along the Mill River waterfront to existing pathways, enhancing habitat, restoring environmental health, and improving water quality through improvements such as the Greenway, bioretention basins and replacing the overlook at Bligh Field.

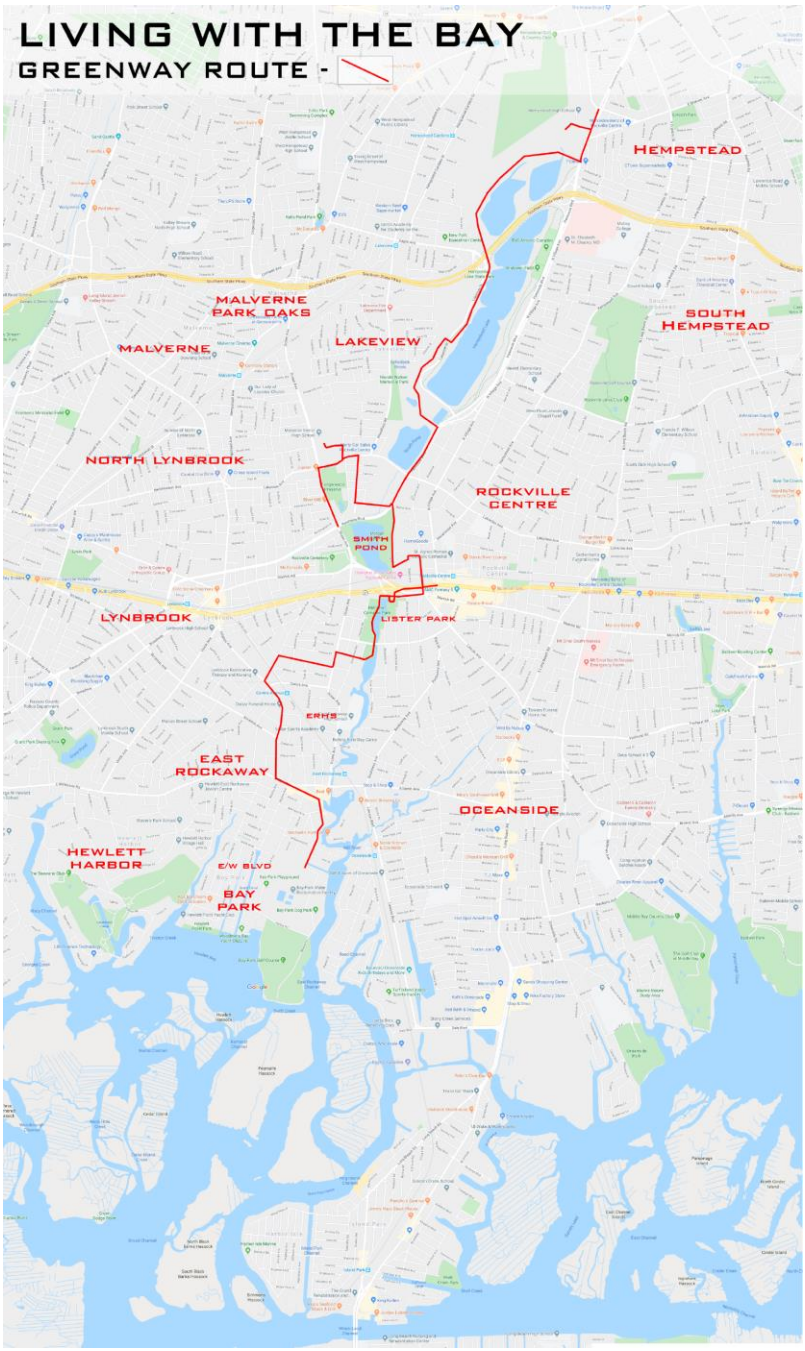
As of APA 26, the proposed improvements for Lister Park include a living shoreline along a majority of the project area to provide bank stabilization and enhance habitat along Mill River. Bioretention basins (i.e. green infrastructure) will be constructed at Tighe Park to provide water quality treatment for the parking lot prior to release to the Mill River.

The parking lot at Centennial Park will be re-graded and repaved to eliminate the current ponding that occurs there. In addition, a bioretention basin will be constructed to provide water quality treatment from the parking lot prior to release into the Mill River. The existing inlet at the low point of the parking lot will be removed and replaced with an overflow inlet in the bioretention basin for larger storm events for conveyance to the Mill River.

The project also includes connecting the parks to the planned Mill River Greenway, to connect communities in the LWTB project area to the river. In addition, to increase access to the waterfront, the existing overlook located at Bligh Field near the parking lot will be reconstructed to provide visual access to the waterfront. The overlook will be accessible from the new greenway and parking lot.

Finally, a knee wall will be constructed along the west side of Bligh Field parking lot to provide flood protection to homes located on Riverside Road which are susceptible to flooding from a 100-year storm event, while reducing the footprint of flood protection infrastructure. The knee-wall alignment at Riverside Road and Bligh Field parking lot crossings will be complimented with floodbreak panels to allow continued access during non-flood time periods.

Figure 18: Greenway Network Concept



Through these proposed improvements, the project will improve community resilience to sea level rise and increasingly frequent extreme weather events as well as preserve quality of life during these events with backflow prevention, parking lot regrading, and porous greenway to better manage stormwater. The improvements will also restore environmental health and water quality using Green Infrastructure (bioretention basins and living shorelines) which will promote aquifer recharge while reducing localized flooding due to storm runoff; while at the same time providing new opportunities for residents of the South Shore to connect with the waterfront.

Currently, the estimated budget for this focus area is $4,000,000. The Lister Park project is expected to reach 100% design in the second quarter of 2020 with construction expected take place from the fourth quarter of 2020 to the third quarter of 2022.

Focus Area – Greenway Network

The HLSP improvements, ~~East Rockaway High School Hardening and Coastal Marshland Restoration~~Smith Pond, and Lister Park projects each have greenway components within them. The focus of the Greenway Network project is to provide waterfront access in other sections of the LWTB project area and connect the greenways together in a continuous system.

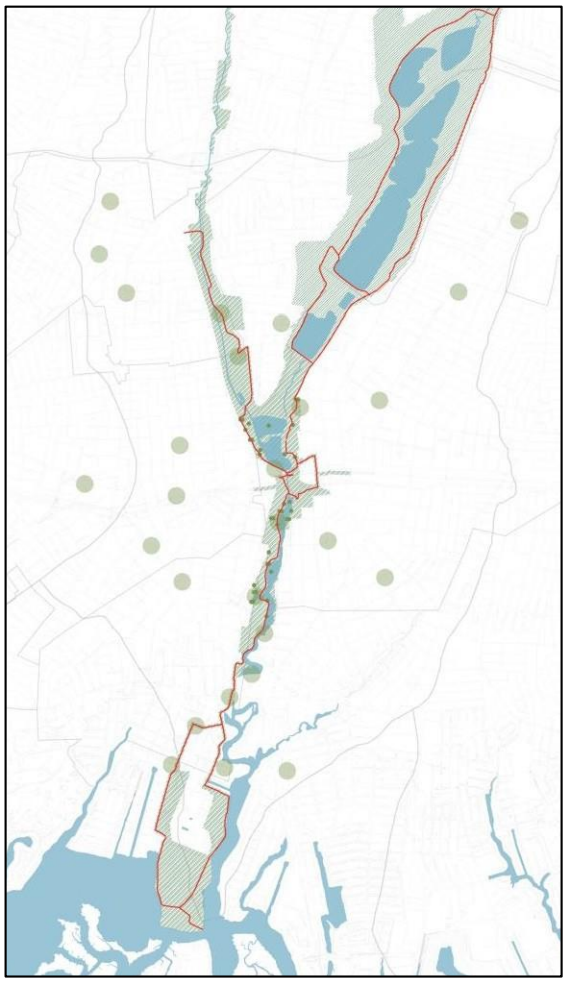
Continuous safe pedestrian pathways from residential areas to the waterfront in the LWTB project area are rare and if they exist, they are fragmented with little connectivity for any significant lengths. The winning RBD LWTB project proposal noted that the overall scale and existing land use of the area makes it ideal for biking, walking, and boating, but existing routes toward or along the river and bay are ad-hoc and discontinuous, and the adjacent neighborhoods' access to the river is poor. Combining this fact with the potential degradation of stormwater management and environmental habitat has created a concern for the sustainable resilience of the community.

The RBD LWTB design called for the landscapes along Mill River to be interconnected into a strong "blue green" framework in order to improve public accessibility and visibility of the Mill River as a means to increase safety~~,~~ and enhance the ecological and landscape value of this historic water course. It will also increase recreational opportunities for the densely populated communities

serving as a long-term positive benefit to the residents. The concept for the Greenway Network is shown in Figure ~~20~~18.

The development of the Greenway Network is intended to be a strong feature for the suburban layout along and adjacent to the Mill River, thus transforming it into an attractive public amenity. The intent is to take the currently disconnected recreational and open resources in the LWTB project area, as well as schools, and link them into a coherent system of pedestrian and bike paths, resulting in the creation of a new greenway. Another goal of the Greenway Network is to adopt and develop new sites along the Mill River that are presently underutilized and/or not accessible, and make these sites productive towards the LWTB objectives.

~~Figure 21: Greenway Network Concept~~



~~The proposed design of the multi-use path will, where practical, typically include 10-feet-wide permeable pavement with water storage and infiltration under the path.~~ As a linear element and where space permits, the paths will serve as interceptors of surface stormwater runoff through parallel bioswales.

Currently, the estimated budget for this focus area is approximately $~~25~~13.2 million. The Greenway Network project is expected to reach 100% design in the second quarter of ~~2019~~2020 with construction expected take place from the ~~third~~fourth quarter ~~2019~~2020 to the third quarter of 2022.

Focus Area – Long Beach Wastewater Consolidation Project

The Long Beach Wastewater Consolidation project (WPCP) is expected to benefit residents of the areas of the Mill River watershed that experience tidal inundation and storm surge from the South Bay, including the tidal reach of the river itself, by mitigating the effects of tidal inundation and storm surge by removing the potential for release of untreated effluent into the Bay during future storms, and improving water quality by ending the ongoing release of undertreated effluent from the Long Beach WPCP. In the long term, water quality improvements associated with the project are expected to facilitate natural marsh regrowth in the Bay as well as allow for future long term interventions to restore the marsh, which would in turn result in further hazard mitigation for residents of the areas of the Mill River affected by storm surge from the Bay, including along the Mill River itself, deriving from healthy marshes' ability to attenuate wave action.

The Long Beach WPCP is located on the northern, South Bay side of the Long Beach barrier island, directly across the Bay from the mouth of the Mill River. Built in 1951, the plant treats wastewater from the City of Long Beach and the hamlet of Lido Beach, discharging the effluent into Reynolds Channel at the southern end of the Bay. Due to its location directly adjacent to the Bay and in the Special Flood Hazard Area, this critical infrastructure faces significant hazards from coastal flooding and storm surges, in an area which, as a barrier island, is already highly vulnerable due to location and topography. Furthermore, the location of critical equipment in facility basements, low-lying building entrances, and low-lying electrical equipment increase the plant's susceptibility to flooding from storm-surge and tidal inundation during storm events. In the face of expected sea

level rise and increasingly strong and frequent storms, the plant's high vulnerability to flooding hazards will only increase.

During Superstorm Sandy, the Long Beach WPCP was overwhelmed by storm surge both from the Atlantic Ocean, and more significantly, the Bay. The WPCP was overwhelmed, and treatment was interrupted, releasing untreated effluent into the South Bay. Although the WPCP was partially operational within 12 hours after flood waters retreated, damages to equipment within the WPCP, such as its sand filter, have resulted in ongoing operational issues affecting the quality of treatment that the plant provides, particularly by impacting its ability to treat suspended solids. Consequently, since Sandy, the undertreated effluent from the Long Beach WPCP has contributed to lowering water quality in the South Bay and the tidal reach of the Mill River, impacting its ecology, the industries tied to it such as tourism and fishing, and the quality of life of residents of the South Shore and the Mill River watershed. In particular, the high nitrogen loads released by the plant has resulted in the mass proliferation of a species of macro-algae known as Ulva, whose decomposition in turn contributes to water-bottom hypoxia, resulting is the destruction of fish and shellfish habitat. Finally, the lasting impact of Superstorm Sandy's damage on the WPCP has contributed to the continuing loss of marshland in the Bay.

The South Bay's marshes represent a key economic, ecological and hazard mitigation asset for residents of the area. Marshes have a great ecological value, supporting a great diversity of plant and animal life, and serving as a nursery for a variety of fish and shellfish species. The marshes' biodiversity and natural beauty in turn sustains local industries and recreational activities, including tourism, fishing, and boating. Finally, marshes provide valuable environmental services such as carbon capture and water filtration, as well as the possibility for significant hazard mitigation, in the form of wave attenuation. A 2016 risk-based comprehensive modeling effort conducted by Lloyds of London/Nature Conservancy evaluated the effects of marsh systems on upland damage during Superstorm Sandy. The report estimated that coastal areas with large marsh systems contributed to a 10% average reduction in property damage within the associated census tracts, with damage reduction benefits in certain areas reaching as high as 29%.

The Bay has suffered an estimated loss of approximately 30 acres per year of marshland, largely due to marshland erosion exacerbated by nitrogen pollution, such as that caused by the Long Beach WPCP. Nitrogen pollution contributes to the degradation of tidal marshes by promoting the marsh vegetation to grow taller but produce fewer and less-dense root structures. These weakened root structures result in accelerated marshland erosion. When marshlands erode, their ability to attenuate wave action is also diminished, resulting in more powerful and higher waves and increased storm surge. During Sandy, storm surge rose through the Back Bay and into the mouth of the Mill River, flooding over 2,500 acres and 4,000 parcels in the LWTB project area, which likely could have been reduced by the presence of healthier marshes in the Bay.

As of APA 26, the proposed Project would convert the Long Beach WPCP into a resilient pump station and construct a new force main to convey untreated effluent to the new state-of-the-art Bay Park Sewage Treatment Plant. The resilient pump will be designed to withstand flooding from a 500-year storm. The design will also consider sea level rise and additional wave height protections. In addition, an elevated emergency generator will be constructed to provide power to the resilient pump station in the event of a power outage. The force main will consist of approximately 16,000 linear feet of pipe, connecting the resilient Long Beach pump station to the Bay Park plant. Upon completion of the construction and activation of the resilient pump station and force main, the remainder of the Long Beach WPCP will be decommissioned. The scope of decommissioning and redevelopment is not part of this project. At that time, all tanks will be cleaned of residual material, equipment will be sold for reuse or for scrap value, the remaining structures will be demolished, and debris will be removed from site and disposed of appropriately. The newly cleared land will be graded and planted with salt-tolerant vegetation. The installation of green infrastructure

measures such as bioswales and rain gardens to facilitate the collection and treatment of stormwater runoff from nearby areas will also be evaluated.

The key benefit of the proposed project will be reducing the hazards posed by tidal inundation and storm surge during major storm events by converting the highly vulnerable Long Beach WPCP into a resilient pump station, and therefore mitigating the serious risk of storm events resulting in the release of untreated effluent into the Bay. The removal of this risk is expected to help increase quality of life during increasingly frequent storm events and community resiliency in the face of sea level rise for residents of the portions of the Mill River watershed that are at risk of flooding from storm surge from the Bay. The proposed project is expected to also result in environmental and water quality improvements in the mouth and tidal reach of the Mill River by ending the release of undertreated effluent from the Long Beach plant into the interconnected Bay. Over the long term, the project is expected to help foster the conditions necessary for marsh regeneration in the South Bay.

The Long Beach project can thus serve as a catalyst for long-term, regional action to restore the South Bay's vital marshes, by improving water quality and therefore facilitating successful marsh restoration projects in the future. Nassau County, working through the South Shore Estuary Reserve Council will implement a long-term adaptive marshland restoration plan to provide crucial storm surge mitigation. In this way, over the long-term, after the completion of the RBD LWTB project, the Long Beach project can facilitate further hazard mitigation for the Mill River watershed in the form of healthier marshes in the South Bay which can serve as a natural barrier against storm surges from future storms, in addition to their economic and ecological benefits to the region.

As of APA 26, the Long Beach Wastewater Consolidation involves a series of projects with an estimated total cost of $93,878,880. The LWTB funded focus area project is estimated to cost $88.23 million dollars for the pump station replacement and connection to wastewater treatment facilities. LWTB will provide $24 million in CDBG-DR funding to the $88.23. million-dollar project. The LWTB component of the Long Beach Wastewater Consolidation is expected to reach 100% design in the second quarter of 2021 with construction expected take place from the first quarter 2021 to the third quarter of 2023.

Focus Area - Social Resiliency Programs

The overall purpose of the Social Resiliency focus area is to strengthen the social infrastructure of communities within the LWTB project area through educational, workforce development, and social service programs that align with the goals of the LWTB project. GOSR intends to support the selected organization(s) in the planning and administration of the Social Resiliency Program through these objectives:

1. Provide Environmental Stewardship opportunities to (pre)K-12 students, higher education students, and other members of the community through:
    - Education about resiliency topics relevant to the LWTB project area, possible options including but not limited to: stormwater interventions included in the LWTB design; environmental awareness; wildlife conservation and ecology; watershed history; STEM/STEAM education and teacher training; on-site and hands-on education and teacher training; affordable housing; economic impacts of natural disasters; etc.
    - Environmental Education and Resiliency Center (as discussed previously).
    - Community service that complements the educational resiliency topics; and
    - Monitoring, research, and data collection that allows students to engage in research projects pertaining to LWTB and monitors long-term effects of the interventions.

2. Develop Workforce Training vocational curriculum for high school students, high school graduates, and/or unemployed/under-employed residents seeking to gain skills in ~~trades engaged in resiliency work~~construction. Graduates of the program are eligible to continue to work on and support the LWTB project as helpers on site as part of Hofstra's externship program.

An example of a natural partner in this focus area is the Seatuck Environmental Association, which ~~is planning its~~ has held two "Day in the Life of the Mill River" ~~2017 program~~events for school students on Long Island. Participation ~~is expected to grow~~ in the second year of the program ~~by targeting~~ targeted participation from schools in the Hempstead, East Rockaway, Rockville Centre and Oceanside districts. ~~Starting in the spring,~~ Seatuck has also ~~plans to commence~~held a series of public presentations, field trips and nature programs to introduce adults and families to the history, habitats and wildlife of the Mill River. LWTB has engaged Seatuck as an implementation partner able to help achieve the project's social resiliency objectives.

Currently, the estimated budget for this focus area is approximately $~~2~~1 million. ~~It is anticipated that a~~ A Notice of Available Funds (NOFA) ~~will be~~was issued in ~~June 2017~~ May 2016 to solicit program proposals and costs for an organization to develop and perform the community education and training. ~~It is anticipated that the Social Resilience programs will be developed and rolled out by second quarter of 2018.~~

Following the NOFA process, GOSR selected Hofstra University as a LWTB Subrecipient to implement several educational and workforce development programs aligned with the LWTB objectives. These programs include a summer science research program focused on the Mill River watershed for local high schoolers; an environmental sustainability certificate program for local government staff, project workers, and policy makers; developing K-12 educational curriculum and professional development for educators focused on the science of climate change and natural hazards; developing educational signage for the LWTB project area; a workforce development program focused on training local adults in construction skills and securing externships for enrollees to acquire hands-on experience; and student-written and produced progress videos for LWTB.

Benefit Cost Analysis

A BCA for the LWTB project was prepared following the HUD BCA Guidance provided in a HUD Guidance Notice (CPD-16-06). The analysis was completed using generally accepted economic and financial principles for BCA as articulated in OMB Circular A-94. For APA 26, an updated BCA was prepared to reflect the updated scope, benefits, costs, projects and other details of the LWTB project included in this APA.

The BCA encompasses the project area as defined by the LWTB project area boundary. The following LWTB focus areas (see project descriptions above) are included in the BCA: Hempstead Lake State Park; East Rockaway High School Hardening; Smith Pond Drainage Improvements; ~~Coastal Marshland Restoration~~Lister Park; East and West Boulevards Stormwater Retrofits; Long Beach Wastewater Consolidation Project; Social Resiliency Programs; and Greenway Network. ~~The costs for the Stormwater Retrofits will be included in an update of the BCA, once the costs are refined.~~

The combined cumulative net present value of activities associated with the ~~five~~eight focus areas is $~~285~~211 million and the combined Benefit Cost Ratio is ~~3.4.~~ 2.4. These measures of project merit demonstrate that the project is viable and would add value to the community, the environment, and the economy. Using a 7% discount rate, and a 50-year planning evaluation horizon, the project will generate significant net benefits to communities within the Mill River

Watershed, as well as other beneficiaries from Nassau County and the region, including those who use the improved Hempstead Lake State Park and the new Greenway Network.

According to the BCA, the combined lifecycle costs to build and operate the proposed Project's assets for the LWTB project (amounting to $~~117.1 million~~ 147.1 million in constant ~~2017~~2018 present value dollars) would generate the following quantified benefits:

Total benefits of $~~402.2~~358.6 million, of which:

- Total Resiliency Values are $~~225.9~~155.7 million
- Total Environmental Values are $~~42~~47.1 million
- Total Social Values are $~~72.4~~34.3 million, and
- Economic Revitalization Benefits are $~~61.8~~121.5 million.

The BCA demonstrates that the LWTB project will generate substantial net benefits (i.e., the benefits exceed the costs of the LWTB project over its useful life). The benefits to the host community and region will be substantial and justify the costs of implementation and operations. The assets (i.e., physical improvements to Hempstead Lake State Park, East Rockaway High School, Smith Pond, ~~Coastal Restoration~~Lister Park; East and West Boulevards Stormwater Retrofits; Long Beach Wastewater Consolidation Project and the Greenway Network) created or improved by the project enhancements will create large resiliency values, social values, environmental values and/or economic revitalization benefits.

The project components evaluated are at different stages of development and the costs and final scopes are subject to change as the designs progress and ~~priorities are established~~move through the environmental review and permitting processes. However, they are still expected to have a large positive benefit. The largest group of benefits consists of resiliency values relate to flood risk protection provided by the project's assets. The BCA, included at Appendix E to the New York State Action Plan, demonstrates and quantifies how the project reduces the flood risk. An excerpt from the LWTB BCA states, "the largest group of benefits consists of resiliency values related to flood risk protection provides by the ~~Projects' assets~~projects' assets (p. ~~6~~vii, LWTB BCA)." The BCA shows that the LWTB project would generate approximately $~~226~~155.7 million in resiliency values and approximately $~~42~~47 million in environmental values in addition to social values and economic revitalization benefits.

~~While costs and benefits were monetized for five of the six project focus areas, the Stormwater Retrofits focus area was evaluated separately on a qualitative basis while the project is being designed. One significant benefit of stormwater BMPs is the flood mitigation that they provide. Stormwater retrofits provide flood mitigation through two notable methods. First, stormwater retrofits reduce or slow the amount of stormwater entering the stormwater drainage system. By doing so, the load on the drainage system is decreased and the frequency and severity of stormwater backups are mitigated. Second, stormwater BMPs filter out sediments and other material that may otherwise clog the stormwater drainage system. Fouling in the stormwater drainage system reduces its capacity and increases the severity and frequency of stormwater backups. By reducing the opportunity of fouling and blockages, stormwater retrofits not only mitigate stormwater backups, but also reduce flooding damage and reduce the need for maintenance on the stormwater drainage system.~~

~~The benefits from flood mitigation by stormwater retrofits can be quantified by modeling the change in severity and frequency of stormwater flooding. Then, benefits of the flood mitigation can be monetized by analyzing the assets that will experience the reduced flooding. Assets can realize the benefits of flood mitigation in several ways.~~

~~In addition, stormwater retrofits reduce the amount of sediments entering the stormwater drainage system and downstream water bodies. For example, the sump pumps implemented as part of the~~

~~LWTB project would collect sediments prior to being discharged to downstream surface waters. Reducing the sediments in surface waters would reduce the clogging of the water and mitigate bank erosion, and flooding. Reducing sediments will also mitigate the deterioration of the storage capacity of reservoirs, destroying of wetland areas, and degradation of water quality. Furthermore, sediments in surface waters cover spawning areas, smother eggs, aquatic insects, and oxygen producing plants. Sediments will increase the turbidity, or suspended sediments, which increases water temperature, reduces light penetration and plant growth, and affects the ability of fish to locate and capture prey. Thus, reducing sediments in surface waters would protect the aquatic habitat of species in those waters.~~

~~On top of the benefits described above, stormwater retrofits can increase the property value of parcels that are positively affected by the implementations. The Ontario Ministry of Environment found that property values can increase by 5% due to reduced downstream flooding and by 15% due to an improvement in water quality. These benefits will not only increase the value of assets of property owners in the LWTB project area, but will increase the attractiveness of properties in the area for incoming home or business owners.~~

The LWTB project BCA can be found at Appendix E to the New York State Action Plan at https://stormrecovery.ny.gov/funding/action-plans-amendments.

Project Feasibility and Effectiveness

LWTB will utilize proven, accepted engineering methods such as retention basins, check valves, green streets, and living shorelines~~, and wetland and marshland restoration~~, to achieve the project objectives identified in the Project Description, and to address a variety of flooding sources throughout the project area in a comprehensive, practical and feasible manner. The design for each component of LWTB ranges from preliminary designs through ~~90% design and continues to advance into~~ 100% (final) designs. GOSR certifies that the preliminary designs consider the appropriate code, or industry design and construction standards, and that the final design will adhere to all relevant codes and construction standards when it is complete. All project components will incorporate standard engineering principals and guidelines under the direction of New York State Licensed Professional Engineers who will certify that the final design met the appropriate code, or industry design and construction standards.

Engineering and modeling are risk management tools utilized to review such matters as design specification of materials, erosion protection and the integration of ecological elements. As a tool to manage risk, the project will be engineered, modeled and tested during the on-going phases of design development to provide feasible and effective hazard mitigation and risk management, including provisions for climate change. The design of project components will consider the impacts of large storm events, increasing storm frequency, tidal and storm surges, and sea level rise. Specifically, the LWTB modelling will consider scenarios including storm events ranging from 1-year to 100-year events, storm surges ranging from five (5) to fifteen (15) feet, and sea level rise of up to 30 inches, individually and combined.

By modelling anticipated changes in environmental conditions over the coming decades, the final project design will provide protection against current and future threats, including future risks associated with climate change. For instance, the effects of sea level rise will be minimized through ensuring that the elevation of berms, bulkheads and living shorelines are adequate. Additionally, hardening of storm water infrastructure will help prepare for increasing storm frequencies associated with climate change and sea level rise. In addition, rainfall from storm events can be mitigated through retention of storm water and leaching into soils or diversion into wetlands or living shorelines that can absorb the flow~~, and the energy of tidal and storm surges can be dissipated by restoring coastal marshlands and wetlands.~~. Modeling will be performed by experienced engineers (~~in co-operation with~~leveraging relevant information from FEMA and USACE~~)~~) for

each project to determine the level of protection offered for rainfall, storm surges and sea level rise, and optimize technologies utilized.

The use of risk management tools will help ensure that the benefits achieved through implementation of LWTB include providing increased coastal flood protection, while enhancing waterfront access and open space resources, improving water quality and habitats, and providing public education and work force development in the project area of the Mill River watershed.

In addition to the Resilience Strategy detailed later in this section, New York's CRRA requires State agencies to consider future physical climate risks caused by storm surges, sea level rise, or flooding in certain permitting, funding, and regulatory decisions. CRRA required NYSDEC to adopt regulations by January 1, 2016 establishing science-based State sea level rise projections, and to update such regulations every five years. GOSR is coordinating with State partner agencies in implementing the provisions of the Act, including with regard to the LWTB project, to reduce risks to public safety caused by flooding and to support resilient communities, now and into the future.

The November 18, 2013 Federal Register Notice (78 FR 69104) requires grantees "to identify and implement resilience performance standards that can be applied to each infrastructure project." In the "Resilience Performance Standards" of its Action Plan, the State identifies a set of performance standards that it uses to measure resiliency which include:

- Robustness
- Redundancy
- Resourcefulness
- Response
- Recovery.

In determining its resilience performance standards, the State of New York has relied on national and global sources such as the Federal *Hurricane Sandy Rebuilding Strategy*,[ii] the US Department of Commerce *Community Resilience Planning Guide for Buildings and Infrastructure Systems*,[iii] World Economic Forum *Global Risk Report*,[iv] the United Nations,[v] and Rockefeller Foundation *City Resilience Framework*,[vi] as well as New York State sources including as the *2100 Commission Report*,[vii] *Sea Level Rise Task Force Report*,[viii] and *NYS Hazard Mitigation Plan.* The State also sought scientific input from the New York State Resiliency Institute for Storms and Emergencies (RISE).[ix] State action on resilience performance standards is also informed by the Community Risk and Resiliency Act (CRRA), signed into law on September 22, 2014.

Together, these strategies, regulatory actions, and innovative program initiatives have helped inform the State approach to setting resilience performance standards. The various studies stress several qualities of resilient systems identified above and in the "Resilience Performance Standards" section of the Action Plan-- robustness, redundancy, resourcefulness, response and recovery. One or more of these resilience qualities are considered for each infrastructure project, including the RBD projects.

GOSR ~~will develop~~developed a Resilience Strategy Plan ~~by January 2018~~in September 2017 for the continued design and ultimate construction of LWTB to ensure that the completed LWTB project will have appropriate continuity and connection to implementation of subsequent phases of the selected RBD proposal or other associated resilience activities. The Resilience Strategy Plan ~~will be~~is a public plan and include LWTB's objectives; geography; hydrology; floodplains; bathymetry; community outreach; areas of concern for flooding; projects to address the areas of concern; scoring and ranking of projects and plans to monitor the effectiveness and efficacy of LWTB.

The LWTB project will primarily be funded by HUD's CDBG-DR allocation for RBD, although additional sources of grants will be sought. The LWTB budget will be maintained within approved grant funding, with regular budget reviews. Contingent reserves will be held for each project component as well as the overall LWTB project to ensure that the project does not exceed budget. Designs and engineering estimates will be reviewed by third parties for reasonableness and accuracy. As additional grants are secured, consideration will be given to enhancements that can be incorporated into LWTB. While the project will introduce improvements to the community, based upon the results of the BCA, it is not anticipated that LWTB will expand the local economy to the point of potential displacement of residents, businesses, and other entities due to potentially increasing costs of rent and property ownership in the years following the completion of the LWTB project.

As part of the design process, GOSR will develop a Monitoring Plan to establish the baseline of flooding and surface water quality near select LWTB project components and in the project area. The plan will specify the parameters to monitor. After completion of construction for LWTB, the monitoring will be repeated to allow a comparison of the project's effectiveness before and after construction. The forthcoming Monitoring Plan will set out actions and approaches for evaluating the impact of LWTB on:

- Flood reductions,
- Water quality improvements and
- Levels of protection against rainfall, surges and sea level rise.

During implementation of the Monitoring Plan, GOSR will ensure that all the appropriate mitigation measures are put in place and meet applicable Federal and State standards. The Monitoring Plan will also include the evaluation methodology, which GOSR will implement after the project is complete. The purpose of the evaluation methodology is to determine the LWTB project's efficacy level in addressing the community's needs through a robust inspection and data collection program. Inspection data will be captured in a report that documents findings that establish a baseline, monitor progress and establish benchmarks to gauge the effectiveness of the project against anticipated outcomes to support long-term operation of the flood protection system. Inspections will consist of site visits to assess maintenance effectiveness, observe operational components, and identify any major unexpected conditions (i.e., deviations from expectations). Lessons learned will be documented as required by HUD.

Maintenance and Operations

GOSR certifies that the long-term operation and maintenance of the LWTB RBD Project will be adequately funded from each governmental subrecipient's reasonably anticipated annual operating budget, recognizing that operation and maintenance costs must be provided from sources other than CDBG and CDBG–DR funds. As described below, GOSR will ensure the availability of funds through specific provisions within agreements with subrecipients.

Based on the BCA for LWTB, the present value of the operating and maintenance costs is estimated to be approximately ~~$17.4 million~~9.8 million (with a basis of ~~2017-2067~~2019-2069; constant ~~2017~~2018 dollars and a 7% discount rate). Specific costs will be identified as the design is finalized. OPRHP, on behalf of New York State and through a Memorandum of Understanding (MOU), is responsible for funding the long-term operations and maintenance of all components of the project within HLSP, including but not limited to the new building and the dams. Nassau County will be responsible for operating and maintaining the Long Beach pump station and force main. Specific roles and responsibilities will be included as part of the construction documents the contractor will develop for the project. Nassau County will have primary responsibility for overseeing O&M for the Long Beach Resilient Pump Station and force main. The remaining components of the project will be operated and maintained by the local government or authority with jurisdiction over the

respective property or asset. These subrecipients will implement the construction of these components of LWTB through a subrecipient agreement with GOSR. The subrecipient agreement, monitored and enforced by the State, will specify the mandatory requirements of operating and maintaining each respective component of the project, including the annual expected cost expenditure by the local government. With the exception of some of the components (e.g., dams) within HLSP, backflow prevention devices in areas affected by tidal inundation, and the Long Beach Pump Station, LWTB is comprised of passive non-mechanical infrastructure that will improve drainage and reduce flooding throughout the Mill River watershed. Thus, as set out in the BCA, the annual operating costs of these components is expected to be low, and maintenance activities will consist of standard activities such as periodic inspections, cleaning, and repair, as necessary.

Through final design, GOSR will develop robust operation and maintenance (O&M) plans, along with budgets, by working collaboratively with appropriate State, county, city and federal agencies, as well as non-profit organizations. The O&M plans will describe the procedures and responsibilities for routine maintenance, communication, and timing of activation in the event of an impending storm. GOSR will serve as a monitoring entity with regard to enforcement of project O&M. O&M for each project component will be provided by the relevant subrecipient. The O&M commitments for project components will be established within applicable subrecipient agreements.

Budget

The overall budget proposal submitted to the RBD competition for the LWTB project was $177,366,078. Based upon the current design, the estimated project cost is $189,22625,000~~,000~~. With a CDBG-DR allocation of $125,000,000, the project has ~~State does not currently anticipate unmet~~ funding needs beyond the CDBG-DR allocation, that are expected to be met through leveraging funds from State and federal sources as described in the "Leveraging of funds" section. Should the situation change, the State will explore additional funding options to fill any unmet needs and analyze the budget further to implement a reduced scale project which still meets the project objectives. State Parks is targeting ~~over $1 million in funds~~additional funding for upgrading infrastructure, public facility and environmental habitat management enhancements at the HLSP site. Additionally, the environmental review process will help shape the potential implementation requirements of the project not currently identified in the preliminary design phase. The estimated project budgets in the table below may differ from construction budgets included in the BCA for reasons including the inclusion of projected costs for compensatory mitigation, construction management and contingency funds, and/or funding for additional project elements that may be added as the projects move through the design process. The budget for the Greenway component included below does not include the portions of the Greenway included in the Hempstead Lake State Park, Smith Pond, and Lister Park focus areas. Construction costs for these sections of the Greenway are included in the relevant focus area budget. Design costs for Hempstead Lake State Park are included in the Pre Development line item in the table below. Any budget changes will be reflected in future Action Plan Amendments when the project components are fully designed.

Table 41: Living with the Bay Budget

Breakdown	Cost
Planning	~~$1,750,000~~$ 4,507,266.03
Pre Development	~~$8,750,000~~$ 17,276,168.03
Construction - Hempstead Lake State Park	~~$35,024,370~~$ 25,656,429.68
Construction - Smith Pond Drainage Improvements	~~$22,571,456~~$ 11,642,768.26

Construction - ~~Stormwater Retrofits~~East and West Boulevards	$~~3,863,886.~~ 7,425,000
Construction – Lister Park	$4,000,000
Construction – Long Beach WPCP Consolidation	$24,000,000
Construction - East Rockaway High School Hardening	$~~4,642,415.~~ 6,000,000
~~**Construction - Coastal Marsh Restoration**~~	~~$14,991,416~~
Construction - Greenway Network	$~~25,156,457~~ 13,200,000
Social Resilience Program	$~~2,000,000.~~ 1,142,368
Program Delivery	$~~6,250~~ 10,150,000
Total Allocated Budget	$125,000,000

Timeline

The State is in the preliminary design phases of the LWTB project components described above. Set forth below is an overarching proposed timeline for the LWTB project. The State is committed to ensuring the timely expenditure of federal funds for the project, and is committed to designing the project so that it achieves the desired goals of the specific RBD disaster related purposes and support investments in resilient recovery. However, the State recognizes that changes in the project design may occur, depending on the design stages, permit issuance and environmental review requirements. Any timeline changes will be reflected in future Action Plan Amendments when the project is fully designed.

Table 42: Living with the Bay Proposed Schedule

Living with the Bay	Start	Finish
Study, Research Planning: This Phase will outline all additional studies, research and planning needed prior to the design and engineering phase. As necessary, this phase will be incorporated into the Environmental Review and Permitting stage as well as the Engineering Phase.	Quarter 1 2014	Quarter 2 2017
~~**Preliminary Environmental Scope Development: This phase will be an additional step for the LWTB project. The complexity of the project as currently envisioned, as well as the size of the potential study area, will require careful consideration prior to formally commencing the Environmental Review and Permitting Stage. At the same time, given the need for an expedient schedule, this preliminary phase will allow certain environmental tasks to be performed in anticipation of the formal review. Concurrent with the study, research and planning phase, the State will conduct preliminary environmental scoping activities. This additional planning and scope development is essential to planning a cogent and implementable project to meet the objectives of Rebuild by Design.**~~	~~Quarter 4 2014~~	~~Quarter 2 2018~~
Environmental Review and Permitting: This Phase will include scoping for, and preparation of, an environmental review consistent with the National Environmental Policy Act (NEPA), as well as the submittal of permits applications to the appropriate governmental agencies. This Phase will include significant opportunities for public review and comment, as well as intergovernmental consultation. Additionally, as required by State and federal law, the environmental review will evaluate alternatives to the proposed project. This timeline is meant to represent an overview of the expected Environmental Review Process for all aspects of the LWTB project. It should be noted that the environmental review and permitting timeline is dependent on the permitting requirements of agencies with jurisdiction, including the United States Army Corps of Engineers, NOAA-NMFS, USFWS and the New York State Department of Environmental Conservation."	Quarter 1 2017	Quarter 4 ~~2019~~2020
Design and Engineering: This phase will include all design and engineering work required for LWTB culminating with complete construction specs. Depending on the progress and outcome of the Environmental Review and Permitting process, this process will be able to run concurrently for some components of the project. This phase will include any and all necessary procurement and contracting as appropriate.	Quarter 1 2017	Quarter ~~4 2018~~2 2021
Site Development: This Phase will include all necessary elements for site development from the Design and Engineering Phase that will prepare for the construction phase of the LWTB project. GOSR will evaluate a potential phased site development schedule for different project components (e.g., upland components and in-water components).	Quarter 3 2017	Quarter ~~1 2020~~2 2021
Construction: This Phase will include all elements of construction related to the LWTB project outlined in the Design and Engineering Phase. For the LWTB project, the timeline is extended to reflect that the nature of the project will only allow for construction in specific building seasons. GOSR will evaluate a potential phase construction schedule for different project components (e.g., upland components and in-water components).	Quarter ~~4 2017~~ 2 2020	Quarter 3 ~~2022~~2023
Closeout: This phase will include the closeout of the entire project, including but not limited to: final site visits and review, release of final contingency payments and all applicable CBDG-DR construction closeout requirements.	Quarter ~~2 2019~~3 2022	Quarter 3 ~~2022~~2023

Overall Rebuild by Design Requirements

Implementation Partnerships

GOSR currently plans to serve as the grantee agency responsible for the implementation of both RBD projects. GOSR is responsible for the implementation of the entire CDBG-DR portfolio for New York State and has taken the necessary steps to build capacity since its inception in June 2013. Two program areas within GOSR have specific skills to address the RBD projects. The New York Rising Community Reconstruction (NYRCR) Program, an award winning community-based resiliency planning and implementation effort comprised of citizen planning committees throughout the Sandy-impacted region has worked in close collaboration with both winning RBD teams in the State of New York throughout project concept development. In addition to engaging with citizen groups, NYRCR Program has working relationships with local and county governments that will be vital to the success of these RBD projects.

The second program is the GOSR Infrastructure Program. GOSR is currently undertaking numerous, large scale infrastructure projects and has demonstrated the capacity to manage these projects in a timely, cost effective manner. Engaging with federal, State, local, and private entities in other CDBG-DR projects, GOSR has demonstrated an ability to work collaboratively with other entities as needed to execute successful resilient recovery projects. It is prepared to leverage institutional knowledge and spearhead RBD project implementation. Both Programs are committed to developing innovative financing strategies that streamline recovery at the local level while maximizing available CDBG-DR funds. The LWTB project implementation team is integrated by GOSR Housing Program, Legal, Environmental, and Policy staff and includes experienced engineers, project managers, lawyers and policy analysts who work closely both internally and with project consultants and implementation partners to advance the LWTB project.

The State maintains up to date certifications of proficient controls, processes, and procedures to ensure that the grantee has established adequate and proficient financial controls; procurement processes; procedures to prevent any duplication of benefits as defined by Section 312 of the Stafford Act; procedures to ensure timely expenditure of funds; procedures to maintain comprehensive websites regarding all disaster recovery activities assisted with these funds; and procedures to detect fraud, waste, and abuse of funds.

Further, each RBD project is subject to complex federal and State environmental review and permitting requirements, which will include the assessment of alternatives. For both projects, GOSR intends to serve as the lead agency for the environmental reviews and, as the projects are shaped through this process, will consult closely with interested governmental and non-governmental stakeholders. The State understands that the partnership and coordination of partners throughout the life of each RBD project is crucial for its success. Throughout the planning and environmental process the State has engaged with numerous entities in the public and private sector.

Additionally, GOSR has an established environmental review bureau, and has procured two experienced environmental review firms to undertake environmental review consistent with the NEPA process and permitting process. GOSR has engaged in rigorous efforts to coordinate with federal, state, and local agencies concerning both projects.

As the State moves towards the implementation phases of the RBD projects, the State will continue to assess the needs of each project and how private sector partners can be engaged to fill any project gaps. The State intends to explore options with local advocacy groups, educational institutions, for profit agencies and not for profit agencies as appropriate for each RBD project.

The nature of the projects also indicate that the State anticipates possible engagement with federal agencies such as HUD, the Army Corps of Engineers, the U.S. Department of the Interior, the U.S. Environmental Protection Agency, National Oceanic and Atmospheric Administration, U.S.

National Park Service, and other partners as needed for the design and execution of each project. Within the State, there are numerous agencies that will also play specific roles in the implementation of these projects, such as New York State Department of Environmental Conservation, Department of State, Department of Education, State Historic Preservation Office, State Parks and others to be identified as the State works through the planning and environmental phase. The State intends to facilitate its coordination and consultation efforts through the Sandy Regional Infrastructure Coordination Group (SRIRC) convened by HUD and FEMA. Each RBD project will also require careful consultation with local governments and necessitate long-term agreements between the State and other relevant entities before construction starts to ensure proper operation and maintenance of the projects.

Living Breakwaters

For Living Breakwaters, GOSR has engaged in multiple meetings and consultations with the SRIRC, HUD, USACE, EPA, NOAA/NMFs, ~~NYSDEC~~DEC, DOS, State Park's State Historic Preservation Office, and the New York City Department of Parks and Recreation (NYCDPR) throughout the 30% design phase. GOSR has circulated a lead agency letter, and USACE, EPA, and NOAA/NMFs, among others, have agreed to serve as cooperating agencies.

For Living Breakwaters, the State performed outreach to the City of New York and relevant agencies, including the Office of Recovery and Resiliency, NYCDPR, the Department of Environmental Protection, the Department of City Planning, as well as the Office of the Borough President. In 2016, GOSR entered into sub-recipient agreements with the New York Harbor Foundation and New York/New Jersey Baykeeper. Both non-profit organizations are being provided funding to assist in Living Breakwaters project design, social resiliency planning, and ecological restoration.

Additionally, GOSR has already been engaged with NYCDPR as a potential partner on certain elements of the Living Breakwaters project, and view them as a critical involved agency for purposes of the overall EIS. In July 2015, GOSR entered into a memorandum of understanding[xi] with NYCDPR outlining processes and procedures for coordinating between the City and State as design of the Living Breakwaters project progresses. GOSR is reviewing the project using the strictest environmental standards, as demonstrated by the fact that GOSR intends to utilize the City's Environmental Quality Review Technical Manual – the blueprint for conducting environmental review in New York City – in its analytical chapters, while according with the State Environmental Quality Review Act and the NEPA, even though State agencies are not typically required to use the City's Manual. GOSR also engaged with New York City agencies during development of its preliminary draft scope, and received detailed comments from NYCDPR, Department of Environmental Protection, NYC Landmarks, Department of City Planning, and the Mayor's Office of Sustainability.

Living with the Bay

With respect to LWTB, GOSR has engaged in consultations with the SRIRC, USACE, NOAA/~~NMFs, NYSDEC~~MFS, DEC, State Parks, U.S. Fish and Wildlife Service (USFWS), as well as Nassau County, the Town of Hempstead, Village of Malverne, Village of East Rockaway, Village of Rockville Centre, the East Rockaway School District, and Village of Lynbrook (local governments) during its planning phase. GOSR provided a presentation on its LWTB planning efforts to the SRIRC Long Island Technical Coordination Team in May 2015. GOSR has held regular progress meetings with these stakeholders as well as HUD, the Technical Advisory Committee (TAC) and the Citizens' Advisory Committee (CAC). Among other activities, local governments will be involved in the environmental review process, evaluation of implementing partners, and establishment of long-term agreements between the State and relevant entities to ensure proper operation and maintenance of projects prior to construction. ~~Currently~~As of Q1 2020,

GOSR has entered into agreements with State Parks, Seatuck, Hofstra University and Rockville Centre as described below. As all focus areas proceed through design, GOSR will develop a comprehensive implementation plan to identify partners with the appropriate capacity, experience and ability to work collaboratively to implement all interventions.

In November 2014, GOSR entered into a Memorandum of Understanding (MOU) with State Parks to perform improvements (unrelated to LWTB) to Robert Moses and Roberto Clemente State Parks. Amendment 1 to the MOU approved additional funds for studies to develop the LWTB project, including:

- Surveying lakes and ponds,
- Assessing groundwater depths and flows,
- Sampling and testing sediments for disposal,
- Investigating subsurface soils at the dam,
- Developing a stream gauge with telemetry based reporting of stream levels and flows, and
- Performing topographic surveys.

Amendment 2 to the MOU authorized State Parks to replace and repair all the equipment in the existing dams and equipment at the existing gatehouse, improve the NW Pond, improve the NE Pond, design and build a new Environmental Education and Resiliency Center, design and build an ADA accessible greenway, and design and build waterfront improvements. As of ~~March 2017~~May 2020, State Parks has performed environmental and engineering studies to develop a scope and has completed ~~a 30%~~final (100%) design of the first stages of improvements~~.~~; received Authority to Use Grant Funds for the project, and begun construction work on the first stage of the project. State Parks has a demonstrated history of working with GOSR, ~~the operational authority and ability~~ to collaborate with other agencies and units of government, ~~and~~ resulting in a beneficial experience that will assist in the successful implementation of key components of the LWTB project, such as the proposed improvements to Hempstead Lake State Park.

Seatuck has entered into a sub-recipient agreement with GOSR to: 1) consult on migratory fish and other ecological restoration, 2) conduct biological surveys of fish and bird populations, and 3) conduct environmental education related to the river's natural history. Seatuck staff participated in numerous strategy meetings and site visits throughout 2015 and 2016. These meetings, which involved NYSDEC, State Parks, USFWS and a host of various consultants, focused on opportunities for reconnecting the river to the bay, improving habitat and advancing migratory fish restoration. The LWTB project will benefit from the expertise of this partner, aiding the implementation of project components, particularly with regard to the project's social resiliency objectives.

GOSR entered into a sub-recipient agreement with Hofstra University on June 26, 2018, to implement various education and social resiliency programs described above in the social resiliency focus area for LWTB.

GOSR entered into a sub-recipient agreement with the Village of Rockville Centre on November 1, 2015 in anticipation of the Village leading implementation of Smith Pond~~.~~ and Lister Park. GOSR will coordinate its efforts with this valuable local partner as the project develops.

As of APA 26, the proposed subrecipients for the remaining focus areas are as follows: East Rockaway High School Hardening- East Rockaway School District; East and West Boulevards and the Greenway- Town of Hempstead; and Long Beach WPCP Consolidation- Nassau County.

Leveraging of Funds

The State is committed to the successful implementation of both RBD projects using the allocations provided and understands the need to identify and secure additional funding outside of the CDBG-DR allocation as needed. This includes not only identifying funds to address the unmet needs identified in the awarded phases of the project, but identifying innovative funding mechanisms to pay for the long-term operation and maintenance costs of these projects. The State will look at funding opportunities such as federal, State or private grants, and collaboration with not for profit and academic institutions focused on similar resiliency actions, as well as financing opportunities, which can be leveraged alongside CDBG-DR for investment.

Table 43: Leveraging of Funds – RBD Unmet Need

Project	Location	Total Project Cost	CDBG-DR Allocation	RBD Unmet Need
Living Breakwaters	Richmond County	70,000,000*	$60,000,000	$10,000,000
Living with the Bay	Nassau County	$189,226,000~~125,000,000~~**	$125,000,000	$21,526,000

**At preliminary 60% design; **~~In final scoping and preliminary design phase.~~ The design for each component of LWTB ranges from preliminary designs through 100% (final) designs*

The process to identify funding and financing opportunities for Living Breakwaters and LWTB started with a high-level review of both projects as a whole and the respective component phases. By taking this approach, the State can elucidate a variety of layered funding and financing opportunities. Many of the grant opportunities identified are both competitive and ongoing, based upon State and federal budget appropriations.

An important initial step will involve finalizing the entities implementing each component of each RBD project and evaluating if they can provide financial support and oversight, long term operations, and maintenance capacity for the project. There are some unique financing opportunities such as public-private partnerships, but this may entail a repayment to the private partner for their work. All options should be further based upon the ability and willingness of the entity implementing the project to entertain these options.

The State will utilize the following iterative approach as the process for assessing the need for and securing additional funding for each RBD project:

1. Prioritize Living Breakwaters and LWTB project components. Isolate components of both projects and identify the following items:
    a. Initial budget, including start-up and capital costs, ongoing operations, and maintenance;
    b. Identify entities/partners to implement, operate, and maintain the project post-completion; and,
    c. Develop time horizon for initial capital costs and ongoing operations and maintenance.
    d. Assess potential funding gaps or opportunities for scope enhancement
2. Organize sources of funding and financing based upon the initial assessment:
    a. Identify sources of funding from entities/partners implementing and operating the projects and agencies or organizations with aligned principles and/or missions to that of the RBD projects or project components;
    b. Prioritize funding opportunities based upon grant funding application dates and probability of success;
        i. Develop a layering strategy for each project component as needed;
    c. Identify if financing structures would be applicable to any components of both projects;

i. Identify ability and willingness of local municipal partners to issue debt or take on long-term liabilities involving project finance;

d. Engage not for profit, academic, corporate, and philanthropic partners with draft program framework for funding.

3. Continually update and monitor federal, State, and local grant opportunities.

The approach outlined above is achieving success for the Living Breakwaters project. The New York City Regional Economic Development Council awarded the New York Harbor Foundation a $250,000 grant to bring oysters and their reef habitat back to the New York Harbor. This is anticipated to further the development of oyster restoration activities related to the Living Breakwaters project. Partnering with non-profit organizations and academic institutions will be key in identifying and applying for additional funds for each RBD project.

~~While LWTB currently has no identified unmet need,~~ GOSR and implementing partners are and will continue to identify opportunities for funding to expand investment within the LWTB project area, identify complementary projects and/or fill potential future funding gaps.

In order to help leverage funds to enhance and expand LWTB, State Parks is considering pursuing a project (with funding through the Environmental Protection Fund) to develop an Invasive Species Management Plan to enhance the long-term sustainability of projects funded through CDBG-DR. Also, Parks is planning infrastructure upgrades and public facility enhancements at Hempstead Lake State Park with New York Works infrastructure funding. ~~The amount of funding has yet to be determined.~~ Projects would include upgrading the Park's primary electrical feed to one that is more energy efficient, constructing a new water main, formalizing a soccer field, upgrading tennis courts and basketball courts, receiving $500,000 to establish a program for at risk youth (Explorers Program) with the Nassau County Police Department and rehabilitating comfort stations to support increased visitation in the future.

GOSR has had initial discussions with US EPA, NOAA and USACE regarding possible grants ~~for coastal and wetland restoration~~. ~~NOAA closed the grant applications for coastal restoration on March 15, 2017 for FY17 and funding for FY18 or 19 remains uncertain. The planning of the coastal restoration is not ready to submit for funding before the March 15, 2017 deadline. EPA grants are available for wetland program expenses (i.e. wetland oversight programs rather than wetland/marshland creation). An EPA Region 2 RFP for wetlands will be released in 2017 and then again in FY19.~~ GOSR will continue to monitor the availability of leverage funding from these sources to augment LWTB project components.

As part of the resiliency improvements at East Rockaway High School, the School District intends to secure non-GOSR funding to elevate the playing fields ~~will be elevated~~ to eliminate frequent flooding that is currently experienced. Consideration will be given to installing an artificial turf to improve drainage. Potential grants will be pursued via the US Soccer Foundation and National Football League Foundation for the artificial turf, which would allow better drainage (to avoid flooding), greater field utilization and lower maintenance costs.

The Long Beach Wastewater Consolidation Project involves a series of projects with independent utility with an estimated total cost of $93,878,880. The LWTB funded focus area project is estimated to cost $88.23 million dollars for the pump station replacement and connection to wastewater treatment facilities. LWTB will provide $24 million in CDBG-DR funding to the $88.23 million dollar project in addition to $42.7 million in funds secured by the proposed subrecipient through other NYS grants. The proposed subrecipient intends to address the remaining unmet need through an application for additional State grants and a FEMA PA 406 Mitigation grant. The proposed subrecipient has made commitments to bridge any shortfall if grants are not secured.

GOSR certifies that, for each RBD project, the preliminary design considers the appropriate code, or industrial design standard and construction standards, and that the final design will adhere to all relevant codes and statutes when it is complete. GOSR will have a registered professional engineer, or other design professionals, certify that the final design met the appropriate codes prior to the obligation of funds by the grantee for construction.

E. Citizen Participation Plan for RBD and GOSR

Description of changes: The State is clarifying and updating policies relating to its Citizen Participation Plan for RBD projects and GOSR.

From page 158 of the New York State Action Plan:

Citizen Participation Plan for Rebuild by Design

Public participation was instrumental in the development of each RBD project, as evidenced by the high level of community engagement undertaken by both design teams. This Citizen Participation Plan (CPP) advances policies and procedures that will engage a large and diverse group of stakeholders. Possible outreach strategies are described in the environmental review section as well as below. A primary outreach strategy used to implement RBD projects was the formation of a CAC for each RBD project. When feasible, further opportunities for public input will be aligned with public participation in the environmental review process to ensure that the public has the ability to learn about the projects and also submit comments and concerns that will inform the assessment of potential environmental impacts and project alternatives.

The CPP reflects guidance specified by HUD in the Federal Register (FR–5696–N–11).

The State will ensure that any Units of General Local Government or sub-recipients receiving funds for RBD projects will have a CPP that meets the HUD CDBG-DR regulations and takes into consideration the waivers and alternatives made available under CDBG-DR funding.

Public Outreach for Rebuild by Design

To keep the public informed throughout the RBD project scoping, environmental review, design, and construction phases, the State will undertake public outreach ~~both~~ through methods such as in person meetings, through social and print media, and through the GOSR website. Modifications have been made to GOSR's website to include project pages dedicated to the State's RBD projects. Each RBD project page has a subpage with project status updates and materials that are relevant to the project. Outreach may also be in-person meetings, solicitation of verbal and written comments, outreach events, online and traditional media, and through a CAC as appropriate throughout project design and implementation. ~~Documents related to each project will also be made available locally, such as at libraries and local government offices.~~

Outreach to Vulnerable Populations for Rebuild by Design

The State continues to undertake specific measures to solicit input from low- and moderate- income households and households headed by non-English speaking persons. To do this, key meetings throughout the projects' development are advertised in various languages~~. Translators~~, and translators, as well as sign language interpreters, will be present, as needed. Notice of meetings will be posted in common areas of public housing and public buildings near the project site, and on the GOSR website. Meetings will be held in handicap accessible locations, and in locations served by public transportation. ~~Scheduling meetings will take into consideration non-traditional work~~

~~schedules. A local public library or publicly accessible public building in or around the project site will be designated as a document repository for all materials relating to the RBD project.~~ . Materials presented at meetings will be posted online for public viewing in a timely manner. To further ensure that RBD information is accessible to all residents, all ~~public~~ program ~~materials~~vital documents will be available in the four languages—English, Spanish, Chinese and Russian.

Citizens' Advisory Committee for Rebuild by Design

The State is firmly committed to continuing to maintain community engagement for both RBD projects. The State has developed CACs to complement the public outreach described above. Each CAC serves an advisory role, meeting and receiving updates on the project as it progresses from conceptual development through environmental review into design and eventually through construction and completion. The CACs engage the wider community at key points in the project development and environmental review process. All CAC meetings are open and advertised to the public.

The CAC will continue to solicit public input through various methods, including as appropriate, toll-free phone lines, mobile recording and listening booths, social media, and other online tools, in addition to more traditional means such as giving presentations at governmental facilities, senior housing sites, public housing sites, local community centers, schools and universities. To the greatest extent possible, the CAC and its public engagement events are coordinated with the citizen participation required for the environmental review and could extend into the building phases of the project. Additionally, technical staff and consultants from GOSR and other local, State, and federal agencies could make presentations and answer questions from community members in order to explain the highly technical components of each RBD project.

Forming a CAC is consistent with the model developed in the State's NYRCR Program, which was led by a community-based committee made up of local leaders and community residents. It is also consistent with New York State's two RBD projects. The proposal for Living Breakwaters states that water hubs will be designed through community design charrettes. The Living Breakwaters CAC has been one of the entities providing input at these charrettes. As of March 2017, the LWTB CAC has met four times and consists of 21 representatives from communities across Long Island. As of APA 26, the LWTB CAC continues to meet on an ongoing basis in accordance with the State's Citizen Participation Plan for RBD.

Environmental Review for Rebuild by Design

The State plans to engage in robust and open public engagement throughout the environmental review process to ensure that the projects comply with State and federal environmental requirements and consider sound environmental practices. The State will undertake the required environmental review process in accordance with the NEPA for each RBD project, which includes multiple opportunities for public review and comment. First, the State intends to hold public meetings on the draft scope for the process. These public meetings will abide by the notice and scheduling requirements set forth in 24 CFR 58.56 and 58.59. The State will accept both written and oral comments from the public on the draft scope, and the State will consider these comments when preparing the final scope of the projects. The purpose of these scoping public meetings is to allow community members and community organizations, the scientific and academic community along with the public as a whole, to raise issues and concerns to be evaluated in the environmental review process. This will ensure that the review is substantively robust, as well as responsive to any community issues with the projects. Once the environmental review process is completed the State will ensure that the community stays engaged in the process by soliciting, considering, and responding to public comments. The State is conducting a second round of public meetings and comment period following the completion of the Draft EIS. The State will also hold public meetings

and comments with the RBD project-specific APA. As it prepares the final EIS, the State will consider and respond to the public comments.

On April 1, 2015, GOSR published the *Coastal and Social Resiliency Initiatives for Tottenville Shoreline, Staten Island, NY* EIS Draft Scope of Work[xii] for the Living Breakwaters project. Oral and written comments were received during the public scoping session held on April 30, 2015, by GOSR serving under the auspices of the New York State Homes and Community Renewal's Housing Trust Fund Corporation, and in accordance with HUD regulations at 24 CFR Part 58. GOSR accepted written comments to the EIS Draft Scope of Work through the public comment period which ended June 15, 2015. The EIS Final Scope of Work for the *Coastal and Social Resiliency Initiatives for Tottenville Shoreline, Staten Island, NY* was published on April 2, 2016.[xiii]

On March 24, 2017, GOSR published the Draft Environmental Impact Statement (DEIS) for the Living Breakwaters project. On March 31, the State submitted its Joint Permit Application to the USACE and ~~NYSDEC~~DEC for the project's major environmental permits. The timing of these actions reflects the fact that environmental permitting typically requires a project to have reached at least 30% design, and the permitting process runs concurrently with the NEPA process, as the permitting process relies on information within the DEIS. The USACE and ~~NYSDEC's~~DEC's review of the permits will run, at minimum, concurrently with the public comment period and agency consultation for the DEIS. As with any permitting process, it is expected that the USACE and ~~NYSDEC~~DEC will have questions and comments on the Living Breakwaters project. GOSR will promptly provide any additional information on the permit application if so requested by the USACE or ~~NYSDEC~~DEC. With the application currently submitted to regulatory agencies, it is anticipated that the USACE and ~~NYSDEC~~DEC will issue the permits for the Living Breakwaters project in accordance with the schedule at Table 40.

~~The~~ As of APA 26, the LWTB ~~project is in~~project's focus areas range from the preliminary design phase~~, therefore, the project has not completed~~ to final (100%) designs, and the project continues to move through the environmental review ~~or~~and permitting processes. Based on the available information pertaining to the ~~potential~~ projects that will be completed through LWTB, GOSR does not ~~anticipate a~~ need to complete an EIS for the LWTB Project. Rather, GOSR ~~intends~~is working to complete Environmental Assessments and to issue Findings of No Significant Impact for multiple projects and groups of projects. Environmental permitting and Environmental Assessments ~~will be~~are performed as each LWTB focus area enters the ~~30~~60% design stage ~~(as described above)~~ and is expected to occur according to the schedule at Table 42~~.~~ The three focus area groupings for Environmental Assessments are HLSP, which has received Authority to Use Grant Funds; Smith Pond, Lister Park, ERHS, East and West Boulevards, and the Greenway; and the Long Beach Wastewater Consolidation Project.

From page 174 of the New York State Action Plan

- *Complaint Procedures:* The State ensures that each UGLG, or, as appropriate, sub-recipient, funded with CDBG-DR funds has written citizen and administrative complaint procedures. The written Citizen Participation Plan provides citizens with information relative to these procedures or, at a minimum, provides citizens with the information relative to the location and hours at which they may obtain a copy of these written procedures. All written citizen complaints which identify deficiencies relative to the UGLG, sub-recipient's community development program merit careful and prompt consideration. All good faith attempts are made to satisfactorily resolve the complaints at the local level. Complaints are filed with the Executive Director or Chief Elected Official of the entity who is receiving the funds and who is investigating and reviewing the complaint. A written response from the Chief Elected Official, Agency Head, or Executive Director to the complainant is made within 15 working days, where practicable.

[i] James Browne, *Impacts on Spartina alterniflora: Factors Affecting Salt Marsh Edge Loss*, 2011, http://search.proquest.com/openview/895393557e4f7d28eb1877da0a30dadb/1.pdf?pq-origsite=gscholar&cbl=18750&diss=y

[ii] https://www.hud.gov/sites/documents/HSREBUILDINGSTRATEGY.PDF

[iii] http://nvlpubs.nist.gov/nistpubs/specialpublications/NIST.SP.1190v1.pdf

[iv] http://reports.weforum.org/global-risks-2013/

[v] http://www.unisdr.org/2014/campaign-cities/Resilience%20Scorecard%20V1.5.pdf

[vi] https://www.rockefellerfoundation.org/report/city-resilience-framework/

[vii] http://www.governor.ny.gov/sites/governor.ny.gov/files/archive/assets/documents/NYS2100.pdf

[viii] http://www.dec.ny.gov/docs/administration_pdf/slrtffinalrep.pdf

[ix] http://nysrise.org

[x] GOSR is currently evaluating different potential environmental review frameworks that could potentially reduce the timeframe for environmental review for some or all project components, while other may require more lengthy studies. GOSR will ensure that its environmental review framework is informed by consultation with governmental stakeholders and the public.

[xi] https://stormrecovery.ny.gov/sites/default/files/crp/community/documents/MOU-Tottenville%20Dune.pdf

[xii] https://stormrecovery.ny.gov/sites/default/files/uploads/coastal_and_social_resiliency_initiatives_-_tottenville_draft_scope.pdf

[xiii] https://stormrecovery.ny.gov/sites/default/files/uploads/Coastal%20and%20Social%20Resiliency%20Initiatives%20-%20Tottenville%20FINAL%20SCOPE%20and%20RTC_1.pdf

Public Comments

The Governor's Office of Storm Recovery (GOSR) posted Action Plan Amendment 26 (APA 26) for public comment on June 5, 2020. At that time, GOSR began accepting comments on the website www.stormrecovery.ny.gov, as well as through the mail. A public hearing was also held remotely on Zoom on June 17, 2020. The comment period officially ended at 5 pm on July 5, 2020.

The legal notices of these hearings and the comment period were published in Newsday as well as in three local non-English newspapers, El Diario (Spanish), Russkaya Reklama (Russian) and Sing Tao (Simplified Chinese).

This Amendment was made accessible to persons with disabilities upon request (by telephone or in writing). Translations of APA 26 were available in Simplified Chinese, Russian and Spanish, the three most commonly used languages in the storm affected areas of New York State based on an analysis of Census data for households with members five years or older with limited English proficiency.

GOSR received 2 emails and 5 submissions via www.stormrecovery.ny.gov with comments related to APA 26, and comments from 8 commenters at the public hearing. Commenters may have submitted more than one comment as part of their submission. Comments are summarized and GOSR's responses are set out below.

COMMENTS REGARDING PROJECT DESCRIPTIONS AND OBJECTIVES

PD 1 – Comment:

Commenters stated that the projects are harmful or not beneficial to the community and do not achieve the objectives of Living with the Bay (LWTB), such as providing flood resiliency, coastal resiliency, creating room for the river and a blue-green corridor, and deploying green infrastructure.

Response:

As stated on page 133 of the NYS Approved Action Plan (incorporating amendments 8-25), in "working collaboratively with community members, municipal leaders, and not-for-profits," GOSR established the following objectives for LWTB:

1. Preserve quality of life in the community during natural disasters, emergency events, and tidal inundation.
2. Increase community resilience and improve drainage infrastructure to address the impacts of rising sea level and increased frequency and intensity of extreme weather events.
3. Incorporate environmental and water quality improvements within the projects.
4. Create and improve public access to the waterfront – lakes, river, and bay.

Page 15 of APA 26 identifies and describes the eight focus areas proposed under LWTB. On page 17 of APA 26, it outlines how the eight focus areas meet the objectives of LWTB.

As stated on page 38 of APA 26, "an updated [Benefit Cost Analysis] was prepared to reflect the updated scope, benefits, costs, projects and other details of the LWTB project included in this APA." The Benefit Cost Analysis (BCA), prepared by Louis Berger in May 2020, was provided with APA 26 for public review. As stated on page 38 of APA 26, the BCA concluded that LWTB has a Benefit Cost Ratio (BCR) of 2.4 and would provide $211,000,000.00 in net benefits for the community, most of which was impacted by Superstorm Sandy.

As shown in the updated LWTB Benefit Cost Analysis published alongside APA 26, the LWTB project will provide resiliency benefits to residents of the Mill River floodplain. The East Rockaway High School, Smith Pond, Greenway, Lister Park, and East and West Boulevard focus areas all provide flood resiliency benefits to residents of the Mill River floodplain. As described in APA 26, the LWTB project has several objectives beyond flood mitigation, including social resiliency and environmental and water quality, but project components do address flood risk and resiliency in the Mill River floodplain. Improvements at East and West Boulevards and the Long Beach WPCP address the effects of tidal inundation, thus increasing the project area's coastal resiliency, while improvements in the HLSP and Smith Pond focus areas are expected to improve capacity management and expand hydraulic surge capacity, respectively, in the river itself, thus addressing the project's goal of creating Slow Streams and room for the river through improved storage and conveyance.

The focus areas laid out in APA 26 continue to reflect the original LWTB proposal's vision for a "blue-green corridor." Improvements to parks along the Mill River and the creation of a greenway running through HLSP south to Nassau County Bay Park through Smith Pond and Lister Park will serve to connect residents to the water. Green infrastructure components are also incorporated in LWTB's focus areas, for example, the living shoreline at Lister Park, wetlands at HLSP, and bioswales at East and West Boulevards.

The LWTB projects are undergoing environmental reviews pursuant to the National Environmental Policy Act (NEPA) and the New York State Environmental Quality Review Act (NYSEQRA), which will be published later in summer 2020. The environmental review prepared for the Hempstead Lake State Park Project is available on GOSR's website at https://stormrecovery.ny.gov/environmental-docs. The environmental reviews will further address the commenters' concerns regarding benefits anticipated to be realized through the implementation of LWTB.

PD 2 – Comment:

Commenters requested descriptions of the proposed improvements at Smith Pond, Lister Park, and East Rockaway High School and asked whether certain interventions would be implemented at specific sites.

Response:

Page 15 of APA 26 identifies and describes the eight focus areas proposed under LWTB. Beginning at page 18 of APA 26 are detailed descriptions of the eight focus areas based on the current scope, design and construction schedule of each. The proposed improvements at Smith Pond, Lister Park, and East Rockaway High School will be fully described in the environmental review that GOSR is preparing pursuant to the NEPA and the NYSEQRA, which will be published later in summer 2020.

COMMENTS REGARDING THE SELECTION OF PROJECTS AND ALTERNATIVES

PA 1 – Comment:

Commenters requested explanations regarding the selection of focus areas and projects proposed in APA 26. Commenters stated that some of the Resiliency Strategy's highest-rated projects are not being pursued and had not been worked on and that projects outside of the Mill River Watershed as proposed. One commenter stated that potential projects identified through the LWTB planning

process and Resiliency Strategy were significantly over the project budget but disagreed with the selection of projects to implement. A commenter also stated that the Hempstead Lake State Park and Long Beach WPCP projects were not planned as part of the LWTB project. Commenters asked how the East Rockaway High School Hardening could be applied to other watersheds and stated that LWTB fails to meet its objectives.

Response:

As stated on page 7 of APA 26, "LWTB proposes to mitigate damage from tidal storm surge by strategically deploying protective measures such as the installation of check valves on outfalls below the high tide mark and retrofitting wastewater infrastructure to prevent the release of untreated effluent; manage stormwater in order to mitigate the damages from common rain events; as well as improve the water quality in the Mill River and the South Shore Back Bay."

The State undertook a rigorous process to select projects given a range of considerations. As stated on page 25 of APA 26, "the State prepared a Resiliency Strategy for the Mill River project area." The Resiliency Strategy provided an overview of problems within the project area and identified 33 focus areas that experience flooding problems and/or evidence of degradation of habitats, erosion of shorelines, and decreased water quality from the effect of untreated urban runoff and the release of undertreated wastewater. While the Resiliency Strategy offered conceptual solutions for each of the 33 focus areas, each would still be subject to additional design, permitting and environmental review, which could result in further scoping and prioritization of the recommendations provided in the Resiliency Strategy. In order to implement the LWTB project within the budgetary, regulatory and timing constraints of the project, the State has engaged in scoping and project prioritization for LWTB as it moves through design, environmental review and permitting processes. As encouraged by HUD for RBD projects, the State has also sought opportunities to leverage project funds to achieve the project's objectives. Budget adjustments and the addition and removal of LWTB focus areas are permitted by HUD's requirements for RBD projects, which must be implemented "consistent with the proposal selected through the RBD competition process, to the greatest extent practicable and appropriate, considering the technical, fiscal, environmental, legal, and other constraints or opportunities that may be encountered." Based on an assessment of the designs, permitting and environmental review of each focus area, GOSR determined that it would pursue the implementation of the eight focus areas/projects proposed under LWTB through APA 26.

Regarding the removal of the Coastal Marsh Restoration, Project V of the Resiliency Strategy, APA 26 states the following at page 5:

> The State is removing the Coastal Marsh Restoration project from Living with the Bay. Issues identified through the design and permitting process have rendered this project infeasible and unable to meet an eligible end use, per HUD CDBG-DR requirements, within the time constraints of the State's P.L. 113-2 funding and unlikely to receive necessary permits. A key challenge faced by the project involved the current levels of nitrogen pollution in the project area, which contributes to the degradation of tidal marshes.

Hempstead Lake State Park is included in GOSR's approved Action Plan, and Long Beach WPCP is being proposed in APA 26, because they address the objectives as described on page 17 of APA 26. Regarding the inclusion of the Long Beach WPCP focus area as part of LWTB, page 5 of APA 26 explains that:

> Through this Action Plan Amendment, the State is proposing to invest Living with the Bay funds to complement other federal and State funding to implement the Long Beach Water Pollution Control Plant (WPCP) Consolidation project. This project will convert the highly vulnerable Long Beach WPCP into a resilient pump station and construct a new force main to convey untreated effluent from the plant to the newly upgraded Bay Park Sewage Treatment Plant. During Sandy, the Long Beach WPCP was overwhelmed by storm surge, releasing untreated effluent into the Bay, and resulting in ongoing operational issues affecting the quality of treatment that the plant provides, which, in turn, contribute to nitrogen pollution in the South Shore Back Bay. The Long Beach WPCP Consolidation Project is expected to address multiple Living with the Bay objectives for both residents of the Mill River watershed that experience tidal inundation and storm surge from the Bay, and other communities surrounding the South Shore Back Bay. These objectives would be achieved by mitigating the effects of, and increasing community resilience to, tidal inundation and storm surge by removing the potential for release of untreated effluent into the Bay during future storm events and improving water quality by ending the ongoing release of undertreated effluent. In the long term, water quality improvements associated with the project are expected to facilitate natural marsh regrowth and long-term marsh restoration projects in the Bay, contributing to further hazard mitigation, through wave attenuation, for residents of the Mill River watershed and other communities around the South Shore Back Bay.

Regarding how the East Rockaway High School Hardening project could be applied to other watersheds, while not all solutions identified in LWTB are applicable outside of the project area, GOSR hopes that all LWTB projects can help inform projects in other parts of the State and nation in some way.

Please see the response to **PD-1** above and page 133 of the NYS Approved Action Plan (incorporating amendments 8-25), which explains that in "working collaboratively with community members, municipal leaders, and not-for-profits," GOSR established the following objectives for LWTB:

1. Preserve quality of life in the community during natural disasters, emergency events, and tidal inundation.
2. Increase community resilience and improve drainage infrastructure to address the impacts of rising sea level and increased frequency and intensity of extreme weather events.
3. Incorporate environmental and water quality improvements within the projects.
4. Create and improve public access to the waterfront – lakes, river, and bay.

Page 15 of APA 26 identifies and describes the eight focus areas proposed under LWTB and page 17 of APA 26 outlines how the eight focus areas meet the objectives.

As stated above, page 38 of APA 26 explains that the updated BCA, prepared by Louis Berger in May 2020, which was provided with APA 26 for public review, concluded that Living with the Bay has a BCR of 2.4 and would provide $211,000,000.00 in net benefits for the community.

PA 2 – Comment:

Commenters inquired about correcting the flooding conditions which occur due to the restricted flow of water where the Mill River passes beneath Sunrise Highway and Merrick Road.

Response:

Please see the response to PA-1, above, regarding the selection of projects proposed under LWTB.

The proposed flood resiliency improvements at Smith Pond, which is located immediately to the north of Sunrise Highway, and Lister Park, located immediately to the south of Sunrise Highway and Merrick Road, will be fully described in the environmental review that GOSR is preparing pursuant to NEPA and SEQRA and will be published later this summer.

Detailed descriptions of the Smith Pond and Lister Park focus areas/projects proposed under LWTB based on the current scope, design and construction schedule for each can be reviewed beginning on pages 26 and 33, respectively, of APA 26.

PA 3 – Comment:

Commenters proposed an alternative for the East Rockaway High School Focus area that would elevate the School's athletic facilities in order to make room for the river.

Response:

Please see the response to PA-1, above, regarding the selection of projects proposed under LWTB.

Beginning at page 31 of APA 26 is a detailed description of East Rockaway High School Hardening focus area/project proposed under LWTB based on the current scope, design and construction schedule.

The proposed improvements at the East Rockaway High School Hardening focus area will be fully described in the environmental review that GOSR is preparing pursuant to NEPA and SEQRA and will be published later in summer 2020.

PA 4 - Comment

Commenters stated that the Coastal Marsh Restoration project should continue to be part of LWTB and requested an explanation for its removal. The comments noted that the Coastal Marsh focus area represented one third of the LWTB project budget and provided benefits, including flood mitigation, that will not be provided by the Long Beach WPCP focus area. Commenters also stated that the proposed Long Beach WPCP Consolidation should not be funded by LWTB and that an emergency spillway at the Hempstead Lake Dam should be pursued instead.

Response:

The Coastal Marsh Restoration project was removed as it was deemed infeasible through the design and permitting process. Regarding the removal of the Coastal Marsh Project, APA 26 states the following at page 5:

> The State is removing the Coastal Marsh Restoration project from Living with the Bay. Issues identified through the design and permitting process have rendered this project infeasible and unable to meet an eligible end use, per HUD CDBG-DR requirements, within the time constraints of the State's P.L. 113-2 funding, and unlikely to receive necessary permits. A key challenge faced by the project involved the current levels of nitrogen pollution in the project area, which contributes to the degradation of tidal marshes.

The Long Beach WPCP focus area proposed for LWTB funding addresses several of the LWTB objectives and represents an opportunity to leverage available funding. The water quality improvements expected to be achieved by the Long Beach WPCP focus area in the long term are expected to help facilitate long-term marsh restoration projects in the Bay. Page 5 of APA 26 explains that:

> Through this Action Plan Amendment, the State is proposing to invest Living with the Bay funds to complement other federal and State funding to implement the Long Beach Water Pollution Control Plant (WPCP) Consolidation project. This project will convert the highly vulnerable Long Beach WPCP into a resilient pump station and construct a new force main to convey untreated effluent from the plant to the newly upgraded Bay Park Sewage Treatment Plant. During Sandy, the Long Beach WPCP was overwhelmed by storm surge, releasing untreated effluent into the Bay, and resulting in ongoing operational issues affecting the quality of treatment that the plant provides, which, in turn, contribute to nitrogen pollution in the South Shore Back Bay. The Long Beach WPCP Consolidation Project is expected to address multiple Living with the Bay objectives for both residents of the Mill River watershed that experience tidal inundation and storm surge from the Bay, and other communities surrounding the South Shore Back Bay. These objectives would be achieved by mitigating the effects of, and increasing community resilience to, tidal inundation and storm surge by removing the potential for release of untreated effluent into the Bay during future storm events and improving water quality by ending the ongoing release of undertreated effluent. In the long term, water quality improvements associated with the project are expected to facilitate natural marsh regrowth and long-term marsh restoration projects in the Bay, contributing to further hazard mitigation, through wave attenuation, for residents of the Mill River watershed and other communities around the South Shore Back Bay.

Regarding the installation of an emergency spillway at the Hempstead Lake dam, the Environmental Assessment prepared for the Hempstead Lake State Park Project at page 39 states the following:

> Under existing conditions, the model indicates that the Hempstead Lake Dam has several feet of freeboard during the 5-year, 25-year, and 100-year storm events.

> The lake behind the dam is not lined, and the water in the lake is permitted to recharge underground. Thus, when water levels rise, increasing water pressure downward and outward, water also infiltrates the ground. This prohibits water levels from rising such that the lake would achieve full capacity. As such, large rain events, such as the historic Long Island flash flooding in 2014, have not filled the lake behind the dam. The average annual rainfall for the project area is approximately 45 inches. The dam's historically over-sized capacity offers redundancy should a future event exceeding the 100-year storm (7.5 inches over a period of 24 hours) occur. For this redundancy to be available for the communities surrounding the dam, NYSDEC requires that the Class C, high hazard dam must comply with current dam safety regulations.

In order to confirm compliance with dam safety regulations, the New York State Department of Environmental Conservation's (NYSDEC) Dam Safety Unit is working with the Office of Parks, Recreation and Historic Preservation (NYS Parks) to complete the physical inspections necessary to assess compliance and recommend any corrective measures. NYS Parks will implement any design recommendations provided by the Dam Safety Unit.

PA 5 – Comment:

Commenters requested an explanation why the Hempstead High School Creek Restoration focus area, Project DD of the Resiliency Strategy, is not being pursued under LWTB.

Response:

Please see the response to **PA-1**, above, regarding the selection of projects proposed under LWTB.

PA 6 – Comment:

Commenters stated that the Social Resiliency Programs were not subject to a public bidding process and do not have public oversight. Commenters also stated that the Social Resiliency Programs consist of activities outside of the Mill River Watershed and that the education programming under with LWTB should include monitoring the water flows in the Mill River.

Response:

As stated on page 38 of APA 26, GOSR published a Notice of Available Funds (NOFA) in May 2016 "to solicit program proposals and costs for an organization to develop and perform the community education and training" that would comprise part of LWTB's Social Resiliency Programs. Both Hofstra University and Seatuck Environmental Association were selected as subrecipients to implement the LWTB Social Resiliency focus area as part of this public solicitation process. HUD regulations do not require a bidding process for subrecipient selection.

Beginning at page 37 of APA 26 is a detailed description of the Social Resiliency Programs focus area proposed under LWTB based on the current scope. As stated in APA 26, the purpose of the Social Resiliency Programs is to "strengthen the social infrastructure of communities within the LWTB project area through educational, workforce development and social service programs that align with the goals of the LWTB project."

PA 7 – Comment:

Commenters stated that LWTB should purchase street-sweeping vacuum trucks for the local municipalities and install filter fabrics in storm drains. Commenters requested an explanation as to why Living with the Bay funds could be used to purchase an emergency power generator but not a vacuum truck.

Response:

Commenters' recommendations regarding the use of vacuum trucks and filter fabrics are noted. Given certain funding constraints GOSR is unable to pursue the commenters' recommendations regarding the provision of vacuum trucks and filter fabrics.

Regarding eligibility of certain types of equipment, please see the below portions of the applicable eligibility regulations found at 24 CFR 570.207(b):

> (1) Purchase of equipment. The purchase of equipment with CDBG funds is generally ineligible.
>
> > (i) Construction equipment. The purchase of construction equipment is ineligible, but compensation for the use of such equipment through leasing or depreciation pursuant to 2 CFR part 200, subpart E, as applicable for an otherwise eligible activity is an eligible use of CDBG funds. However, the purchase of construction equipment for use as part of a solid waste disposal facility is eligible under § 570.201(c).
> >
> > (ii) Fire protection equipment. Fire protection equipment is considered for this purpose to be an integral part of a public facility and thus, purchase of such equipment would be eligible under § 570.201(c).
> >
> > (iii) Furnishings and personal property. The purchase of equipment, fixtures, motor vehicles, furnishings, or other personal property not an integral structural fixture is generally ineligible. CDBG funds may be used, however, to purchase or to pay depreciation in accordance with 2 CFR part 200, subpart E, for such items when necessary for use by a recipient or its subrecipients in the administration of activities assisted with CDBG funds, or when eligible as fire fighting equipment, or when such items constitute all or part of a public service pursuant to § 570.201(e).
>
> (2) Operating and maintenance expenses. The general rule is that any expense associated with repairing, operating or maintaining public facilities, improvements and services is ineligible. Specific exceptions to this general rule are operating and maintenance expenses associated with public service activities, interim assistance, and office space for program staff employed in carrying out the CDBG program. For example, the use of CDBG funds to pay the allocable costs of operating and maintaining a facility used in providing a public service would be eligible under § 570.201(e), even if no other costs of providing such a service are assisted with such funds. Examples of ineligible operating and maintenance expenses are:

(i) Maintenance and repair of publicly owned streets, parks, playgrounds, water and sewer facilities, neighborhood facilities, senior centers, centers for persons with a disabilities, parking and other public facilities and improvements. Examples of maintenance and repair activities for which CDBG funds may not be used include the filling of pot holes in streets, repairing of cracks in sidewalks, the mowing of recreational areas, and the replacement of expended street light bulbs; and

(ii) Payment of salaries for staff, utility costs and similar expenses necessary for the operation of public works and facilities.

PA 8 – Comment:

Commenters requested that GOSR consider alternatives to the Education and Resiliency Center proposed under Living with the Bay's Hempstead Lake State Park Project.

Response:

Please see the response to **PA-1**, above, regarding the selection of projects proposed under LWTB, as well as GOSR's previous response to similar public comments starting on page 41 of APA 16. The Education and Resiliency Center has been procured and construction is scheduled to begin in August 2020.

COMMENTS REGARDING THE BENEFIT COST ANALYSIS AND FINANCING FOR LIVING WITH THE BAY

FI 1 – Comment:

Commenters stated that APA 26 should be rejected because funding is being spent outside of the Mill River Watershed, the proposals do not address regional concerns of southern Nassau County, and inclusion of the Hempstead Lake State Project and proposed Long Beach WPCP Consolidation result in a lower overall benefit than the previous proposal presented in APA 16. Commenters also stated that the Hempstead Lake State Park and Long Beach WPCP focus areas represent a large percentage of the LWTB project cost, and that there are significant other sources of funding for both projects. Comments also state that the LWTB proposals presented in APA 26 result in an overall reduction in benefits from the proposals presented in APA 16.

Response:

APA 26 outlines how the focus areas address regional concerns, meets the objectives of LWTB, and have a positive benefit.

As provided on page 76 of the May 2020 BCA prepared by Louis Berger, the Long Beach WPCP Consolidation provides resiliency benefits and has a positive benefit cost ratio of 1.45. As the commenters note, the BCA attributes all of these benefits to "resiliency values." GOSR anticipates that the project will have long-term environmental benefits to Hewlett Bay, particularly when combined with the overall Western Bays Resiliency Initiative referenced in the BCA. As discussed

on page 5 of APA 26, implementation of this focus area is expected to improve "water quality by ending the ongoing release of undertreated effluent. In the long term, water quality improvements associated with the project are expected to facilitate natural marsh regrowth and long-term marsh restoration projects in the Bay." Environmental restoration and a significant improvement in water quality as a result of the reduction in nitrogen loading are also expected with the completion of the Bay Park Conveyance Project of the Western Bays Resiliency Initiative. This benefit is not quantified in the BCA.

As provided on page 18 of the May 2020 BCA prepared by Louis Berger, the Hempstead Lake State Park Project "is economically feasible and has a positive benefit cost ration of 2.78."

As stated above, page 38 of APA 26 explains that the updated BCA, prepared by Louis Berger in May 2020, which was provided with APA 26 for public review, concluded that Living with the Bay has a BCR of 2.4 and would provide $211,000,000.00 in net benefits for the community.

Regarding the proportion of the LWTB cost represented by the HLSP and Long Beach WPCP focus areas, less than 40% of the CDBG-DR funding for LWTB is being allocated to the construction of HLSP and the Long Beach WPCP improvements. The Long Beach WPCP focus area, in particular, is leveraging funding from other sources for more than 70% of the improvements' cost. As stated on page 50 of APA 26, NYS Parks is also seeking State funds from sources including the NYS Environmental Protection Fund and New York Works infrastructure funding for additional improvements to HLSP, including upgrading infrastructure, and public facility and environmental habitat management enhancements.

Regarding other sources of funding for the HLSP and Long Beach WPCP focus areas, GOSR conducts an initial Duplication of Benefits review before executing a Subrecipient Agreement with subrecipients to prevent any duplication of benefits as defined by section 312 of the Stafford Act. This review will be performed again before project closeout to detect any additional duplicative benefits before release of final payment. Finally, the Subrecipient Agreement contains a subrogation clause requiring subrecipients to return to the State any funds found to be duplicative assistance.

With respect to the changes between APA 16 and APA 26, the BCA provides the following description of changes:

> The major changes included in this updated BCA for LWTB include removal of quantitative analysis of the Coastal Marsh Restoration and the qualitative analysis of stormwater management projects; addition of quantitative analyses of the Lister Park, Educational Programs, East and West Boulevards, and Long Beach Wastewater Consolidation projects; and updates to scope, costs, benefit calculations, benefit-cost ratios and other information for the projects to reflect the projects described in Action Plan Amendment 26.
>
> As projects are added and removed, and project designs and permitting processes have advanced, expected total project costs have increased from approximately $117 million to $147 million; expected total benefits have decreased from around $402 million to around $359 million; and the overall benefit cost ratio has decreased from 3.44 to 2.4.

Please see the response to **PA-1**, above, explaining why GOSR removed the Coastal Marsh Restoration proposal and is including the Long Beach WPCP Consolidation project.

FI 2 – Comment:

Commenters stated that, according the BCA, the Hempstead Lake State Park Project offers $0 in resiliency benefits.

Response:

Regarding the Resiliency Value of the Hempstead Lake State Park Project, page 10 of the May 2020 BCA prepared by Louis Berger provides the following:

> The main resiliency values for the Hempstead Lake State Park Project are associated with the dams' component that would make the flow control structures operable and provide a means to manage stormwaters, and include dam improvements to meet current regulatory standards, and gatehouse renovations. In addition, the ponds component would involve the installation of floatables catchers and sediment basins at pond inlets, create stormwater filtering wetlands, improve water quality, and manage impoundment capacity. HLSP resiliency benefits associated with the dam improvements such as the improved management capabilities within the upstream catchment portion of the watershed are not reflected within the BCR but are acknowledged to be a benefit that would be assigned a + (i.e., expected positive impact) per HUD qualitative rating instructions. Water quality values for HLSP were included from wetlands creation that is included within the Environmental Value section of the BCA.

FI 3 – Comment:

Commenters stated that APA 26 does not address the availability of funding for the long-term operation and maintenance costs at Hempstead Lake State Park, and cited concerns including general NYS budget issues.

Response:

Regarding the funding availability for the long-term operation and maintenance costs of all projects implemented under LWTB, including Hempstead Lake State Park, page 151 of the NYS Approved Action Plan (incorporating amendments 8-25) states the following:

> GOSR certifies that the long-term operation and maintenance of the LWTB RBD Project will be adequately funded from each governmental subrecipient's reasonably anticipated annual operating budget, recognizing that operation and maintenance costs must be provided from sources other than CDBG and CDBG–DR funds. As described below, GOSR will ensure the availability of funds through specific provisions within agreements with subrecipients.

FI 4 – Comment:

One commenter stated that under the National Objective for LWTB "low-moderate income" has been removed.

Response:

As indicated on page 7 of APA 26, GOSR is no longer identifying the possibility of using the "Low- and Moderate Income" National Objective for LWTB.

LWTB was designed to benefit the residents in the area broadly and focuses on public spaces accessible to all communities in the project area, including LMI communities. GOSR has chosen to identify a single national objective for LWTB as a whole, as permitted by HUD requirements, and this update to the Action Plan should not be interpreted to mean LWTB will not benefit LMI residents.

FI 5 – Comment:

Commenters stated that LWTB is presented with a funding shortfall because the APA shows a total cost of $183 million.

Response:

As provided on page 50 of APA 26:

> The LWTB [Long Beach WPCP] funded focus area project is estimated to cost $88.23 million dollars for the pump station replacement and connection to wastewater treatment facilities. LWTB will provide $24 million in CDBG-DR funding to the $88.23 million dollar project in addition to $42.7 million in funds secured by the proposed subrecipient through other NYS grants. The proposed subrecipient intends to address the remaining unmet need through an application for additional State grants and a FEMA PA 406 Mitigation grant. The proposed subrecipient has made commitments to bridge any shortfall if grants are not secured.

COMMENTS REGARDING POTENTIAL ENVIRONMENTAL IMPACTS AND LEVEL OF ENVIRONMENTAL REVIEW

ER 1 – Comment:

Commenters requested more details regarding the anticipated impacts presented by the proposed Long Beach WPCP Consolidation. Commenters also requested an analysis of the expected reductions in Total Maximum Daily Loads (TMDLs) of nutrients and other pollutants under the proposal as compared to existing conditions.

Response:

The proposed Long Beach WPCP Project is the subject of an environmental review that GOSR is preparing pursuant to NEPA and will be published later in summer 2020. The environmental review will address the commenters' concerns regarding the necessary environmental permits and approvals required by other agencies in order to implement the proposal, as well as the temporary

and long-term impacts to tidal wetlands present on the hassocks. The environmental review will describe and analyze the measures that will be taken to prevent and minimize harm to the flora and fauna that occur on the hassock islands. The environmental review will also describe the measures that will be taken to prevent and minimize impacts to tidal wetlands that occur on the hassock islands as well as the plans proposed to restore the areas disturbed during construction of the proposal. The environmental review will address the commenter's concerns regarding the proposal's beneficial impacts of reducing the discharge of nutrients and other pollutants into the bay and will include the anticipated decreases of the TMDLs discharged into the bay based on the known performance capabilities of the Bay Park Wastewater Treatment Plant.

ER 2 – Comment:

Commenters requested more detail regarding the proposed floodwalls at the Smith Pond focus area and stated they did not reflect the Slow Streams concept and would likely concentrate the flow and cause greater flooding impacts. Commenters requested that GOSR provide an analysis of impacts to the floodplain that may be presented by the proposal at the Smith Pond focus area.

Response:

Beginning at page 26 of APA 26 is a detailed description of the Smith Pond Drainage Improvements focus area/project based on the current scope, design and construction schedule. There, APA 26 explains that because the costs of dredging Smith Pond were so high, the intended stormwater runoff attenuation will instead be achieved through the installation of flood walls.

The proposed Smith Pond Drainage Improvements, as well as any reasonably foreseeable impacts, will be analyzed in the environmental review that GOSR is preparing pursuant to NEPA and SEQRA and will be published later in summer 2020. The environmental review will address the commenters' concerns regarding the potential floodplain impacts that may be presented by the proposed Smith Pond Drainage Improvements.

Additionally, GOSR published its "Early Notice of a Proposed Activity in a 100-Year Floodplain and Wetlands" on May 21, 2020 and May 22, 2020. The intent of this early public notice was to afford the public an opportunity to provide input into the decision to provide funding for the proposed LWTB Stormwater Improvements. The 30-day comment period associated with this notice started on May 22, 2020 and expired on June 22, 2020. One comment was received during this period and has been used to inform decisions related to LWTB's final scope and design, which will be fully described in the environmental review that GOSR is preparing pursuant to NEPA and SEQRA and will be published later in summer 2020.

ER 3 – Comment:

Commenters state that the Living with the Bay proposals removed projects addressing environmental justice communities.

Response:

Please see the response to **PA-1**, above, regarding the selection of projects proposed under LWTB. All activities proposed to be funded by Community Development Block Grant-Disaster Recovery (CDBG-DR) Funds provided by the U.S. Department of Housing and Urban Development (HUD)

are subject to review under the NEPA pursuant to 24 C.F.R. 58. Accordingly, the environmental reviews prepared under LWTB will address the commenter's concerns regarding the potential of impacts to environmental justice communities by analyzing the proposals pursuant to Executive Order 12898 "Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations" of 1994.

ER 4 – Comment:

Commenters state that the LWTB proposals will have negative impacts on the flow and function of the Mill River as well as the local floodplains and that LWTB does not consider climate change. Comments request that the LWTB proposals avoid placement of additional materials within the floodplain and river. One commenter stated that sediment basins and floatables systems are inadequately sized. Commenters state that GOSR should analyze for a storm event similar to Superstorm Sandy. Commenters state that in order to sufficiently analyze for floodplain impacts, GOSR must collect data and continue to collect data in order to monitor the conditions of the Mill River Watershed. Commenters state that GOSR should engage the United States Geographic Survey (USGS) for assistance collecting data and monitoring floodplain data.

Response:

As stated on page 40 of APA 26 regarding "Project Feasibility and Effectiveness," the development of the proposed LWTB focus areas/projects was driven by "proven, accepted engineering methods such as retention basins, check valves, green streets, and living shorelines to achieve the project objectives….and to address a variety of flooding sources throughout the project area in a comprehensive, practical and feasible manner."

All activities proposed to be funded by CDBG-DR Funds provided by HUD are subject to review pursuant to 24 C.F.R. 58. Accordingly, the environmental reviews prepared under LWTB will address the commenter's concerns regarding the potential impacts to the floodplain pursuant to Executive Order 11990 "Floodplain Management" of 1977.

The environmental review prepared for the Hempstead Lake State Park Project contains this analysis prepared under Executive Order 11990 and is available on GOSR's website at https://stormrecovery.ny.gov/environmental-docs. The same is underway for the Long Beach Water Pollution Control Plant Consolidation Project and Stormwater Improvements.

GOSR published its "Early Notice of a Proposed Activity in a 100-Year Floodplain and Wetlands" for the Long Beach WPCP Project on February 13, 2020 and February 14, 2020. The intent of this early public notice was to afford the public an opportunity to provide input into the decision to provide funding for the proposed Long Beach WPCP Consolidation. The 15-day comment period associated with this notice started on February 14, 2020 and expired on March 2, 2020. One comment was received during this period regarding potential to utilize the local workforce for the construction of the proposal.

GOSR published its "Early Notice of a Proposed Activity in a 100-Year Floodplain and Wetlands" for the LWTB Stormwater Improvements on May 21, 2020 and on May 22, 2020. The intent of this early public notice was to afford the public an opportunity to provide input into the decision to provide funding for the proposed LWTB Stormwater Improvements. The 30-day comment period associated with this notice started on May 22, 2020 and expired on June 22, 2020. One comment was received during this period and has been used to inform decisions related to LWTB's final

scope and design, which will be fully described in the environmental review that GOSR is preparing pursuant to NEPA and SEQRA and will be published later in summer 2020.

As the NYS Approved Action Plan (incorporating amendments 8-25) explains, the development of the proposed LWTB focus areas/projects considered "the impacts of large storm events, increasing storm frequency, tidal and storm surges, and sea level rise." As stated in APA 26 at page 40, modeling was "performed by experienced engineers (leveraging relevant information from FEMA and USACE) for each project to determine the level of protection offered for rainfall, storm surges and sea level rise, and optimize technologies utilized." It is important to design to these statistically developed storms, as opposed to one specific storm event.

As stated on page 151 of the NYS Approved Action Plan (incorporating amendments 8-25), "GOSR will develop a Monitoring Plan to establish the baseline of flooding and surface water quality near select LWTB project components and in the project area." The Monitoring Plan will set specific parameters by which "a comparison of the project's effectiveness before and after construction" can be measured.

ER 5 – Comment:

Commenters stated that GOSR has not sufficiently analyzed the impacts to the floodplain and allege that the modeling presents issues and that the proposals within the East Rockaway High School focus area will cause increased flooding on the east side of the Mill River.

Response:

Beginning at page 32 of APA 26 is a detailed description of the East Rockaway High School Hardening focus area/project based on the current scope, design and construction schedule. There, APA 26 explains that the design proposal provides an integrated solution that stabilizes the riverbank, which is intended to provide structural stability for the High School's sports field bleachers located along the river that has been compromised by ongoing erosion.

As stated above, all activities proposed to be funded by CDBG-DR Funds provided by HUD are subject to review pursuant to 24 C.F.R. 58, which requires an analysis of the potential impacts to the floodplain pursuant to Executive Order 11990 "Floodplain Management" of 1977.

An analysis prepared under EO 11990 is underway for the Stormwater Improvements and will address the commenters' concerns regarding impacts to the floodplains, including those areas on the east side of the Mill River.

GOSR published its "Early Notice of a Proposed Activity in a 100-Year Floodplain and Wetlands" for the Long Beach WPCP Consolidation was published on February 13, 2020 and on February 14, 2020. The intent of this early public notice was to afford the public an opportunity to provide input into the decision to provide funding for the Long Beach WPCP Consolidation. The 15-day comment period associated with this notice started on February 14, 2020 and expired on March 2, 2020. One comment was received during this period regarding potential to utilize the local workforce for the construction of the proposal.

GOSR published its "Early Notice of a Proposed Activity in a 100-Year Floodplain and Wetlands" for the LWTB Stormwater Improvements on May 21, 2020 and on May 22, 2020. The intent of this early public notice was to afford the public an opportunity to provide input into the decision to provide funding for the proposed LWTB Stormwater Improvements. The 30-day comment period associated with this notice started on May 22, 2020 and expired on June 22, 2020. One comment

was received during this period and has been used to inform decisions related to LWTB's final scope and design, which will be fully described in the environmental review that GOSR is preparing pursuant to NEPA and SEQRA and will be published later in summer 2020.

ER 6 – Comment:

One commenter stated that GOSR should perform a full Environmental Impact Statement for the entire LWTB Project.

Response:

Please see GOSR's previous response to similar public comments starting on page 42 of APA 16. As stated on page 14 of the Environmental Assessment published for the Hempstead Lake State Park Project, the LWTB Project and Resiliency Strategy are configured such that the projects could advance independently, subject to the availability of funding. Because the timelines for development and construction of each LWTB project vary, each project's environmental review will consider the cumulative environmental impacts of the previous project(s) in addition to the specific scope of the subsequent environmental review. The cumulative impact analysis in each environmental review will describe all of the projects proposed by the LWTB Project and Resiliency Strategy and assess the potential cumulative contribution to impacts occurring under the proposed project.

GOSR determined that permissibly separating the environmental review processes for the Hempstead Lake State Park Project, the Long Beach WPCP Consolidation, and the Stormwater Improvements, respectively, would best inform decision makers and the public of potential environmental impacts presented by the proposed improvements. On December 11, 2019, the environmental review for the Hempstead Lake State Park Project was completed and published on GOSR's website at https://stormrecovery.ny.gov/environmental-docs. The environmental reviews for Long Beach WPCP Consolidation and Stormwater Improvements will be published later in summer 2020.

ER 7- Comment:

Commenters stated that GOSR must consider the cumulative impacts of LWTB under a future scenario where the main dam at Hempstead Lake State Park is breached at the same time the Mill River is influenced by a tidal surge.

Response:

As the response to ER 4 notes, APA 26 explains that the development of the proposed LWTB focus areas/projects was driven by "proven, accepted engineering methods such as retention basins, check valves, green streets, and living shorelines to achieve the project objectives….and to address a variety of flooding sources throughout the project area in a comprehensive, practical and feasible manner."

The NYS Approved Action Plan (incorporating amendments 8-25) explains the development of the proposed LWTB focus areas/projects considered "the impacts of large storm events, increasing storm frequency, tidal and storm surges, and sea level rise." As stated in APA 26 on page 40,

modeling was "performed by experienced engineers (leveraging relevant information from FEMA and USACE) for each project to determine the level of protection offered for rainfall, storm surges and sea level rise, and optimize technologies utilized." It is important to design to these statistically developed storms, as opposed to one specific storm event.

HUD reviewed the Environmental Assessment for the Hempstead Lake Park Project and provided the Authority to Use Grant funds in February 2020. The Environmental Assessment is available to the public on GOSR's website at https://stormrecovery.ny.gov/environmental-docs.

GOSR published its "Early Notice of a Proposed Activity in a 100-Year Floodplain and Wetlands" for the Long Beach WPCP Consolidation on February 13, 2020 and February 14, 2020. The intent of this early public notice was to afford the public an opportunity to provide input into the decision to provide funding for the proposed Long Beach WPCP Consolidation. The 15-day comment period associated with this notice started on February 14, 2020 and expired on March 2, 2020. One comment was received during this period regarding potential to utilize the local workforce for the construction of the proposal.

GOSR published its "Early Notice of a Proposed Activity in a 100-Year Floodplain and Wetlands" for the LWTB Stormwater Improvements on May 21, 2020 and on May 22, 2020. The intent of this early public notice was to afford the public an opportunity to provide input into the decision to provide funding for the proposed LWTB Stormwater Improvements. The 30-day comment period associated with this notice started on May 22, 2020 and expired on June 22, 2020. One comment was received during this period and has been used to inform decisions related to LWTB's final scope and design, which will be fully described in the environmental review that GOSR is preparing pursuant to NEPA and SEQRA and will be published later in summer 2020.

COMMENTS REGARDING THE HEMPSTEAD LAKE STATE PARK PROJECT

HL 1 – Comment:

Commenters stated that LWTB should incorporate the installation of an emergency spillway at the Hempstead Lake dam.

Response:

Please see the response to **PA 4** regarding the installation of an emergency spillway at the Hempstead Lake dam.

HL 2 – Comment:

Commenters stated that the Education and Resiliency Center proposed under the Hempstead Lake State Park Project would not meet the objective of providing environmental education and would merely serve as additional office space for the Park. Commenters also stated that the cost estimate for the Education and Resiliency Center has increased.

Response:

The Environmental Education and Resiliency Center is a simple facility which is an educational and interpretive hub to increase community engagement, encourage learning and exploration of many unique natural features of the park and of the overall Mill River Corridor. It will stimulate public stewardship consistent with the LWTB objective to educate the public on storm impacts,

stormwater management and environmental management. It is an investment in a particularly underserved community adjacent to the Park and serves a diverse demographic of park patrons, families and students of all ages. There will be a variety of environmental and storm resiliency education programming delivered through the Center. There is not a feasible alternate existing building at the Park which could accommodate an education center and several sites were considered at the Park before this site in an already developed area was selected. There is an increase anticipated for the Education and Resiliency Center but actual costs need to be finalized.

HL 3 – Comment:

One commenter stated that the Northern Ponds within Hempstead Lake State Park receive Volatile Organic Compounds (VOCs) from the nearby watershed.

Response:

Pursuant to 24 CFR 50.3(i) and 58.5(i)(2), GOSR analyzed the potential for impacts related to contamination and toxic substances that may be presented by the Hempstead Lake State Park Project. This analysis is available at page 118 of the Environmental Assessment prepared for the Hempstead Lake State Park Project, which is available to the public on GOSR's website at https://stormrecovery.ny.gov/environmental-docs. HUD reviewed the Environmental Assessment and provided the Authority to Use Grant funds in February 2020.

Additionally, GOSR responded to comments regarding potential impacts related to contamination and toxic substances that may be presented by the Hempstead Lake State Park Project. Please see page 19 of Appendix AA to the Hempstead Lake State Park Environmental Assessment, which is available to the public on GOSR's website at https://stormrecovery.ny.gov/environmental-docs, for GOSR's response to comments regarding potential impacts related to contamination and toxic substances that may be presented by the Hempstead Lake State Park Project.

HL 4 – Comment:

Commenters stated that the Hempstead Lake State Park Project has negative consequences and that the Citizens' Advisory Committee (CAC) does not support the project or its approach to water quality improvement.

Response:

The Hempstead Lake State Park Project is subject to environmental review pursuant to NEPA and SEQRA, which was published on December 22, 2019 and is available to the public on GOSR's website at https://stormrecovery.ny.gov/environmental-docs. This review concluded that the Hempstead Lake State Park Project would have no significant impact on the quality of the human environment. Accordingly, GOSR has determined to proceed with the implementation of the Hempstead Lake State Park Project, as described in the December 2019 Environmental Assessment. HUD reviewed the Environmental Assessment and provide the Authority to Use Grant Funds in February 2020.

HL 5 – Comment:

One commenter stated that the Environmental Assessment prepared for Hempstead Lake State Park did not consider future conditions under climate change scenarios and did not model for the Probable Maximum Precipitation scenario.

Response:

Please see the response to comment HL 4, above, regarding the conclusions of the Environmental Assessment prepared for the Hempstead Lake State Park Project.

Page 44 of the Environmental Assessment prepared for the Hempstead Lake State Park provides the following explanation regarding modeling used for climate change scenarios and the Probable Maximum Precipitation scenario:

> Pursuant to NYSDEC dam safety regulations, the 50% probable maximum precipitation (PMP) was also modeled in the hydrological and hydraulic assessment (Appendix G). The model indicates that during a 50% PMP event, the maximum impoundment of the lake would be approximately 2,510 acre-feet of water over 178 acres of surface area, shown in Figure 22. This maximum impoundment would occur with the two top sluice gates open and would be similar to the maximum impoundment under existing conditions (in which the gates are permanently shut but cut partially open). As noted, the 50% PMP model is prepared to meet dam safety compliance requirements, but the reservoir's unlined sides and bottom allow substantial groundwater infiltration such that filling the lake is not possible.
>
> While the likely maximum capacity of the dam under the proposed project is not expected to differ from the maximum capacity under the current, existing conditions, the proposed project would allow the Hempstead Lake Dam to withstand a modeled 39% PMP event without overtopping, improve the structural integrity of the dam and make the dam compliant with current dam safety requirements.
>
> Probable maximum precipitation, or PMP, is a modeled rain event. NYSDEC requires the 50% PMP modeling for dam safety compliance. In Long Island, such an event would entail 33 inches of rainfall in a 72-hour period. Such an event would be well in excess of the 100-year storm and is modeled only for NYSDEC dam safety requirements. In such an event, much of the Town of Hempstead would be flooded, regardless of the existing dam. *The average annual rainfall within the project area is approximately 45 inches.*

COMMENTS REGARDING THE PUBLIC ENGAGEMENT PROCESS

PB 1 – Comment:

A commenter stated that the CAC was excluded from any discussions regarding APA 26. Commenters requested individual responses to comments and that the CAC have more involvement in the decision-making process. A commenter asked if there was a transcript of the remote public hearing.

Response:

APA 26 was posted on June 5, 2020 for a 30-day public comment period and a public hearing was held on July 5, 2020 to solicit public comments. The legal notices with information on the comment period and hearing were published in Newsday as well as in three non-English newspapers, El Diario (Spanish), Russkaya Reklama (Russian), and Sing Tao (Simplified Chinese) and on GOSR's website.

For APA 26, GOSR provided direct notice of the public comment period and hearing to members of the CAC. GOSR considers all comments received orally or in writing on its substantial Action Plan amendments during the public comment period and includes a summary of the comments and GOSR's responses as part of the Action Plan Amendments submission to HUD. APAs, including public comment summaries and responses, are published on GOSR's website. Transcripts of the public hearings are kept by State officials.

PB 2 – Comment:

Commenters stated that public engagement during the development of LWTB was insufficient because the timing of CAC meetings were infrequent and close to holidays and that the decision-making process lacked participation by the CAC and the public. Commenters also stated that CAC members did not receive responses to requests and designs were not shared with them. Commenters stated that meetings lacked sufficient opportunity to discuss project proposals. Commenters stated that there has not been enough notice provided to the residents within the Mill River Watershed regarding the LWTB proposals. Commenters provided examples of various electronic, paper, and telephone notifications they receive from their local municipalities.

Response:

For substantial Action Plan Amendments, citizens and stakeholders are provided reasonable and timely access to comment on the amendment through written comment and during public hearings. GOSR also undertakes the required environmental review process in accordance with the NEPA, which includes multiple opportunities for public review and comment. In addition to these opportunities for public comment and input, CAC meetings are open and advertised to the public.

GOSR has implemented a robust and transparent public engagement process for LWTB that facilitates citizen participation. In addition to all required public engagement activities, for substantial Action Plan Amendments and Environmental Assessments, GOSR has:

- Hosted 11 public CAC meetings, which often included "executive sessions" for the CAC to provide and receive detailed feedback and speak directly with every member of the project team including executive level GOSR staff, project managers, design professionals, technical advisors, attorneys, and environmental scientists;
- Hosted a virtual CAC briefing via Zoom while public events have been postponed during the public health crisis;
- Incorporated CAC and public input gathered during the Resiliency Strategy to identify and rank priorities for investment, guiding GOSR's decision making in what to advance to construction;
- Doubled the public comment period times for Environmental Assessments at the public's request;
- Made executive, technical, and external affairs staff available via phone to address feedback directly during the interim of formal meetings; and

- Provided detailed memos, letters, presentation materials, and final plans upon request.

GOSR will continue to be available as requested to answer questions, receive feedback, and provide responses.

PB 3 – Comment:

One commenter asked whether the communities surrounding Hempstead Lake State Park were consulted regarding the need for the project.

Response:

The communities surrounding the HLSP focus area were consulted regarding the need for the project.

PB 4 – Comment:

One commenter requested instructions on how the Environmental Assessments for LWTB could be obtained for review by the public and how long the public comment periods would be.

Response:

Once available, all of GOSR's environmental reviews are posted on its website at https://stormrecovery.ny.gov/environmental-docs for the public to access. Typically, the comment periods required by regulations are for 15 calendar days.

COMMENTS REGARDING THE MANAGEMENT OF LIVING WITH THE BAY

MT 1 – Comment:

One commenter expressed a belief that the Hempstead Lake State Park Project does not comply with multiple procedural laws.

Response:

GOSR and its subrecipients are committed to complying with all federal, state, and local laws, as well as HUD regulations and guidelines as a condition of receiving CDBG-DR funding.

The commenter provided no references or citations to the procedural laws mentioned in the comment.

MT 2 – Comment:

Commenters stated that the GOSR Team managing LWTB has changed four times and that they believed that the consultants hired to provide technical support were less than impressive. Commenters requested an explanation of the management changes and how the current management team will maintain stability.

Response:

As stated on page 46 of APA 26, the "implementation team is integrated by GOSR Housing Program, Legal, Environmental, and Policy staff and includes experienced engineers, project managers, lawyers and policy analysts who work closely both internally and with project consultants and implementation partners to advance the LWTB project."

The GOSR project team includes the Executive Director of Housing, Buyout, and Acquisition Program and Project Manager for LWTB who joined the project management team in April 2019. The team also includes the Director of Communications and External Affairs and Associate General Counsel and Environmental Attorney.

These management changes reflect GOSR's commitment to the successful implementation of LWTB and allocation of agency resources as appropriate to achieve this outcome.

MT 3 – Comment:

One commenter requested an explanation as to why the proposed Long Beach WPCP Consolidation can be funded under LWTB when it is not expected to be complete until after 2022.

Response:

There are multiple funding sources contributing to the Long Beach WPCP Consolidation. Nassau County is utilizing LWTB CDBG-DR funds along with other State and local contributions for the project. All CDBG-DR funds will need to be drawn down by September 30, 2022. The remaining construction activities after that date to complete the project will be paid for with other funding not subject to GOSR's federal expenditure deadline. The other improvements in the LWTB project portfolio do not have multiple sources of funding contributing to construction, so there will not be funding available after September 30, 2022 to complete construction activities.

MT Comment 4 – Comment:

Commenters requested that GOSR seek an extension on LWTB's funding deadline.

Response:

GOSR's CDBG-DR expenditure deadline is mandated by Congress and cannot be waived by HUD. Congress needs to approve an extension, and there are proposed bills that include an extension to the expenditure deadline.